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Annual Public Health Report
of the Province of Assam
for the year 1939

BY

LIEUT.-COLONEL A. M. V. HESTERLOW, M.B., CH.B. (EDIN.),
B.Sc., P.H. (EDIN.), D.T.M. & H. (EDIN.), I.M.S.,
DIRECTOR OF PUBLIC HEALTH, ASSAM

SHILLONG

PRINTED AT THE ASSAM GOVERNMENT PRESS

1941

Price Rs. 2-10 or 4s.



22501461968



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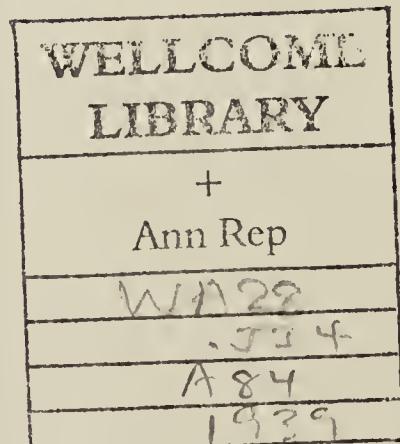
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GOVERNMENT OF ASSAM

OFFICE OF THE DIRECTOR OF PUBLIC HEALTH, ASSAM

No. 10395.

FROM

LIEUT.-COLONEL A. M. V. HESTERLOW, M.B., CH.B. (EDIN.),
B.S.C., P.H. (EDIN.), D.T.M. & H. (EDIN.), I.M.S.,
DIRECTOR OF PUBLIC HEALTH, ASSAM,

To

THE SECRETARY TO THE GOVERNMENT OF ASSAM
IN THE EDUCATION AND LOCAL SELF-GOVERNMENT
DEPARTMENTS.

Dated Shillong, the 16th July 1940.

SUBJECT :—PUBLIC HEALTH REPORT FOR THE YEAR 1939.

SIR,

I HAVE the honour to submit herewith the Annual Public Health Report
for the year 1939.

Your obedient servant,

A. M. V. HESTERLOW,
Lieut.-Colonel, I.M.S.,
Director of Public Health, Assam.



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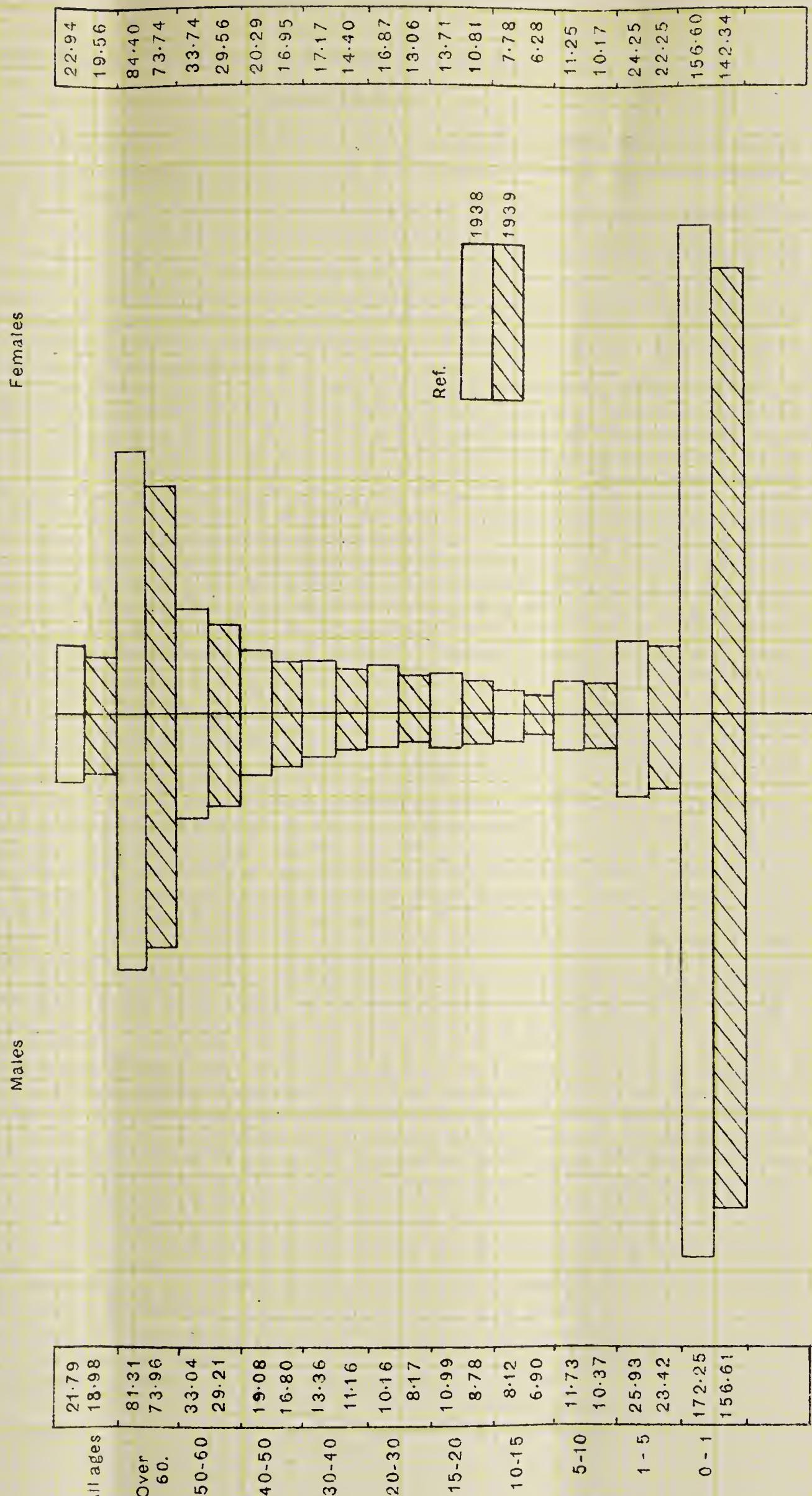
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Annual Public Health Report of the Province of Assam for the year 1939

CHAPTER I

METEOROLOGY, ECONOMIC CONDITIONS, i.e., PRICE OF FOOD-GRAINS, ETC.

The Meteorologist, Calcutta, has furnished the following note on the meteorological conditions of the Province of Assam for the year 1939.

(1) *The cold weather period—January and February.*—In January no western disturbance affected the weather of the Province and only a few light showers occurred on some days towards the end of the month. Consequently the sky was less clouded than usual and the total rainfall during the month was in large defect, the actual rainfall being only 13 per cent. of the normal. In February, although two western disturbances visited the Province, the first one giving scattered showers on the 11th and the second one local rain on the 14th, the total rainfall for the month remained in defect by 18 per cent. The mean cloud amount and the minimum temperature were however, slightly above normal in this month.

The hot weather period—March to May.—The rainfall of the Province was in large defect (88 per cent less than normal) in March as none of the disturbances from the west reached Assam during this month and also because the activity of thunderstorms was much less than usual. In April although the weather of the Province continued to be unaffected by western disturbances, there was a marked increase in thunder storm activity. The thunderstorms however, failed to give their usual quota of rainfall, and the total rainfall for the month remained in defect by 19 per cent. Cloud amount and relative humidity were in defect in both these months, while both maximum and minimum temperatures were above normal in April. Thunderstorms occurred almost throughout the month of May, but the associated precipitation was more marked after the 13th. With the extension of the south-west monsoon into the North Bay of Bengal by the 18th, locally heavy thundershowers occurred in Assam, Dhubri and Cherrapunji recording 11" each in 48 hours ending at 8 hours on the 20th. Due to these thunderstorms the Province had slightly more than its normal rainfall (7 per cent. excess) during the month. Temperature and humidity were practically normal while skies were slightly more clouded than usual.

The monsoon period—June to September.—Marked thunderstorm activity characterised the first five days of June preceding the preliminary advance of the south-west monsoon into the Province which occurred on the 5th of this month. Following a temporary lull after its first onset, the monsoon revived over the Province by the 11th and remained generally active till the end of the month giving copious rain. The month's total rainfall was in excess by 7 per cent. The activity of the monsoon during the months of July and August was controlled by the usual depressions and storms of this season. Nearly general rain fell over the Province on several days in July and the total rainfall for the month was slightly in excess. In August, although general rain fell on a few days in the first half of the month, rainfall decreased thereafter and the total rainfall for the month was in defect by 43 per cent. Conditions improved in September and during the second week of the month the monsoon was moderate to strong over the Province. In the fourth week, under the influence of a depression which travelled from the east central Bay of Bengal to Chota Nagpur, then recurred towards north-east and filled up over Assam, the monsoon was unusually strong over the Province. The total rainfall for the month was in moderate excess (22 per cent.). Temperatures and humidity were generally normal in all the months and cloudiness was slightly in excess except in August.

The retreating monsoon period—October to December.—Under the influence of a depression from the east central Bay of Bengal which crossed the Sunderbans coast and filled up over south Bengal on the 2nd of October the south-west monsoon current strengthened over Assam and nearly general and locally heavy rain fell between the 1st and the 4th. Thereafter, the south-west monsoon withdrew and was followed by the type of weather characteristic of the transition from the south-west to the north-east monsoon. Scattered thundershowers occurred on many days during the third week while nearly general or local rain fell on a few days towards the end of the month. The total rainfall of the month as well as the mean cloudiness was slightly in excess.

November was practically rainless except for a few falls in the second week of the month, and the month's rainfall was in defect by 94 per cent. In December although a few falls of rain occurred over the Province, the rainfall for the month was in large defect (71 per cent.). Temperatures, humidity and cloudiness were nearly normal in both these months.

2. *Economic conditions, prices of food-grains, etc.*—The report deals with the plains districts of the Province. The staple diet of the Province is rice. The average quantity of common rice sold per rupee in 1939 and in the previous 5 years is shown in the table below:—

Districts	1	1934	1935	1936	1937	1938	1939
		2	3	4	5	6	7
Cachar	...	12 0	15 10	13 10	14 10	12 10	10 7
Sylhet	...	11 10	12 7	12 3	12 12	11 11	10 7
Goalpara	...	12 5	13 7	12 0	11 12	11 0	10 3
Kamrup	...	11 4	11 15	12 3	11 4	10 14	10 3
Darrang	...	13 6	13 10	14 11	14 0	13 12	11 6
Nowgong	...	12 10	15 5	14 4	13 6	13 11	11 11
Sibsagar	...	11 7	11 14	11 14	11 15	12 8	10 13
Lakhimpur	...	11 1	11 12	11 11	11 15	11 15	10 15

From the figures given in the above table it will be seen that there was a tendency for the price of rice to rise in all the districts during the year under report. Provincial birth and death-rates, were 28.44 and 19.25 respectively in 1939 against 27.89 and 20.90 respectively in 1938.

CHAPTER II

VITAL STATISTICS

(Including population and Emigration and Immigration)

3. *General Census figures.*—The report refers to the plains districts of the Province, the population of which according to the census of 1931, was 7,927,953 (4,187,085 males and 3,740,868 females).

While in former reports the birth-rates and death-rates, and other ratios were calculated on the census population, this year these rates have been calculated on the estimated population of the year. Average and other ratios for groups of previous years have also been calculated on estimated populations. The estimated population of the plains districts for the year 1939, was accordingly, 8,523,816 (4,501,412 males and 4,022,404 females), as compared with the estimated population of 8,504,722 for the year 1938. The growth of the population has been estimated from the natural increase—excess of births over deaths—since the census of 1931. It has not been possible to take immigration and emigration into account as no dependable statistics are available.

As all ratios and comparisons will henceforth be based on estimated populations, Table "D", which indicated the extent of the error between rates based on estimated and census populations has been omitted as it now will serve no useful purpose. In its place, this year, a statement has been inserted to show in convenient form the growth of the population and the birth and death-rates in the districts each year since 1931.

Districts	Estimated mid-year population	Number of births	Birth-rate per mille based on the estimated population	Number of deaths	Death-rate per mille based on the estimated population		
						1	2
						2	3
						3	4
						4	5
						5	6
1931							
Cachar	...	540,263	15,972	29.56	11,632	21.53	
Sylhet	...	2,735,095	91,113	33.31	57,333	20.96	
Goalpara	...	885,250	26,393	29.81	19,019	21.43	
Kamrup	...	977,257	21,002	21.49	12,658	12.95	
Darrang	...	585,059	15,058	25.73	11,223	19.18	
Nowgong	...	563,066	12,135	21.55	7,821	13.89	
Sibsagar	...	934,989	24,285	25.97	15,926	17.03	
Lakhimpur	...	725,552	17,048	23.49	12,305	16.96	
Total for the Province	...	7,946,531	223,006	28.06	148,117	18.64	
1932							
Cachar	...	544,527	17,714	32.54	10,397	19.09	
Sylhet	...	2,772,962	98,790	35.63	54,914	19.80	
Goalpara	...	891,009	26,734	30.00	20,973	23.54	
Kamrup	...	984,108	21,294	21.64	15,064	15.31	
Darrang	...	588,912	15,578	26.45	11,647	19.78	
Nowgong	...	566,930	12,295	21.69	8,631	15.22	
Sibsagar	...	944,063	26,460	28.03	15,931	16.87	
Lakhimpur	...	730,577	15,454	21.15	12,764	17.47	
Total for the Province	...	8,023,088	234,319	29.21	150,321	18.74	
1933							
Cachar	...	553,165	18,393	33.25	12,188	22.03	
Sylhet	...	2,820,536	100,103	35.49	64,799	22.97	
Goalpara	...	896,905	28,452	31.72	20,857	23.25	
Kamrup	...	991,984	22,312	22.49	13,635	13.74	
Darrang	...	593,152	16,791	28.31	11,611	19.57	
Nowgong	...	570,812	11,119	19.48	6,799	11.91	
Sibsagar	...	955,002	26,854	28.12	16,704	17.49	
Lakhimpur	...	738,378	22,094	29.92	14,461	19.58	
Total for the Province	...	8,119,934	246,118	30.31	161,054	19.83	
1934							
Cachar	...	559,114	18,542	33.16	10,121	18.10	
Sylhet	...	2,849,666	94,787	32.26	60,171	21.11	
Goalpara	...	906,360	30,412	33.55	20,704	22.84	
Kamrup	...	999,697	20,964	20.97	13,543	13.55	
Darrang	...	598,971	19,452	32.48	12,525	20.91	
Nowgong	...	575,156	10,408	18.09	6,372	11.08	
Sibsagar	...	963,613	26,741	27.75	17,700	18.37	
Lakhimpur	...	745,028	21,450	28.79	14,565	19.55	
Total for the Province	...	8,197,605	242,756	29.61	155,701	18.99	

Districts		Estimated mid-year population	Number of births	Birth-rate per mille based on the estimated population	Number of deaths	Death-rate per mille based on the estimated population
1	2	3	4	5	6	
1935						
Cachar	...	565,673	18,946	33.49	14,702	25.99
Sylhet	...	2,879,099	91,858	31.91	65,492	22.74
Goalpara	...	914,702	29,933	32.72	22,595	24.70
Kamrup	...	1,004,955	21,008	20.90	15,679	15.60
Darrang	...	605,336	18,714	30.92	13,285	21.95
Nowgong	...	578,818	9,633	16.64	6,865	11.86
Sibsagar	...	973,653	27,030	27.76	16,082	16.52
Lakhimpur	...	752,600	22,776	30.26	15,023	19.96
Total for the Province	...	8,274,836	239,898	28.99	169,723	20.51
1936						
Cachar	...	572,069	19,861	34.72	11,858	20.73
Sylhet	...	2,911,133	96,053	32.99	59,552	20.46
Goalpara	...	921,926	29,014	31.47	20,286	22.00
Kamrup	...	1,012,698	19,055	18.82	11,319	11.18
Darrang	...	611,009	17,352	28.40	12,083	19.77
Nowgong	...	581,322	10,316	17.75	6,506	11.19
Sibsagar	...	984,279	25,678	26.09	17,712	17.99
Lakhimpur	...	759,814	22,375	29.45	16,285	21.43
Total for the Province	...	8,354,250	239,704	28.69	155,601	18.63
1937						
Cachar	...	579,785	20,242	34.91	13,813	23.82
Sylhet	...	2,943,520	98,923	33.61	72,758	24.72
Goalpara	...	933,086	31,110	33.34	20,186	21.63
Kamrup	...	1,021,099	19,266	18.87	11,570	11.33
Darrang	...	615,456	17,896	29.08	13,439	21.84
Nowgong	...	586,096	11,784	20.11	7,701	13.14
Sibsagar	...	990,705	25,910	26.15	19,240	19.42
Lakhimpur	...	766,236	23,093	30.14	17,347	22.64
Total for the Province	...	8,435,983	248,224	29.42	176,054	20.87
1938						
Cachar	...	585,410	18,315	31.29	11,565	19.76
Sylhet	...	2,967,732	91,056	30.68	74,865	25.23
Goalpara	...	943,410	30,182	31.99	23,756	25.18
Kamrup	...	1,028,775	22,979	22.34	15,076	14.65
Darrang	...	620,623	17,774	28.64	12,275	19.78
Nowgong	...	589,287	9,792	16.62	6,635	11.26
Sibsagar	...	993,741	25,971	26.00	16,429	16.45
Lakhimpur	...	770,744	21,111	27.39	17,142	22.24
Total for the Province	...	8,504,722	237,180	27.89	177,743	20.90
1939						
Cachar	...	572,092	19,784	34.58	12,363	21.61
Sylhet	...	2,971,160	88,478	29.78	60,795	20.46
Goalpara	...	947,949	31,006	32.71	23,627	24.92
Kamrup	...	1,036,013	19,973	19.28	11,998	11.58
Darrang	...	622,178	18,414	29.60	12,819	20.63
Nowgong	...	591,933	14,004	23.65	10,088	17.04
Sibsagar	...	1,000,900	28,545	28.51	18,455	18.44
Lakhimpur	...	781,591	22,224	28.43	13,974	17.87
Total for the Province	...	8,523,816	242,428	28.44	164,119	19.25

Registration continues to be carried out in the same areas of the Hill districts as before, and the result is shown separately in paragraph 12 of this report.

Births and birth-rates.—The birth-rate of the province for the year 1939 was 28·44, as compared with 27·89 in the preceding year. The table below shows the corresponding rates as reported from the other provinces. The birth-rates for this province have been calculated on the estimated populations of the years concerned, and it is presumed that the rates in the other provinces have been similarly calculated.

Province	Birth-rate		
	1939	1938	1934-38
	1	2	3	4
Assam*	28·44	27·89	28·40
Bengal	32·02	30·48	32·06
Bihar	33·3	34·48	34·3
Orissa	34·92	33·76	†
Central Provinces	38·28	43·19	43·21
Madras	38·53	38·87	37·70
Burma	35·34	34·59	33·33
Bombay	43·16	42·22	40·77
United Provinces	36·26	36·79	36·90
Punjab	40·82	49·50	9·31
North West Frontier Province	27·98	30·56	31·34
Sind	20·88	19·93	20·05

* The rates are calculated on the estimated populations of the years concerned.

† The average birth-rate is not available as the Province came into existence from 1st April 1936.

4. *Birth registration, General.*—The total number of births registered during the year under report was 242,428 as compared with 237,180 in the preceding year thus yielding a birth-rate of 28·44 per 1,000 of population against 27·89 in the previous year. The number of births registered in 1939 was higher than that recorded in 1938 by 5,248. The average birth-rate for the previous 5 years was 28·40. The highest birth-rate was recorded in the district of Cachar (34·58) followed by Goalpara (32·69), Sylhet (29·78), Darrang (29·60) and Sibsagar (28·51). These five districts returned birth-rates above and the other three districts below the provincial average (28·44). The lowest birth-rate was recorded in the district of Kamrup (19·28).

The highest birth-rate of 38·17 in December was followed by 38·10 in November. The lowest rate (20·52) was recorded in June. During the year under review births exceeded deaths by 78,309 or 9·18 per mille of population. In 1938, the excess was 59,437 births over deaths. The number of males to every 100 females born was 107. It was the same last year.

5. *Birth registration in urban areas.*—The total number of births registered in urban areas during the year 1939 was 6,635 as compared with 6,538 in 1938 and birth-rate per mille of population was 30·06 as compared with 30·45 in the preceding year. This apparent discrepancy is due to a large increase in the estimated population for 1939 as compared with that of the previous year. Another factor which is undoubtedly at work to produce this lower rate is the error due to defective registration of births, as may be gathered from the recorded rates given below. There are 27 towns, 12 of which returned rates above 30 per mille. The highest rate was recorded in the town of Gauripur (45·06) in the Goalpara district followed by Barpeta (44·40) in the Kamrup district, Srimangal (43·45) in the Sylhet district, Polashbari (37·28) in the Kamrup district, Nowgong (36·92) in the Nowgong district, and Dhubri (36·33) in the Goalpara district. Rates below 25 per mille were recorded from 7 towns, the lowest rate (8·67) being recorded in Doom Dooma the next lowest (21·06) being recorded in Sibsagar. The low birth-rate in Nalbari is due to the fact that it became a town in October, 1939 and birth-rate was calculated on the recorded births for three months of the year only. The birth-rate exceeded the death-rate in all towns. The birth-rate was lower than the death-rate in Golaghat (birth-rate 28·33—death-rate 34·36) and Doom Dooma (birth-rate 8·67—death-rate 9·69).

6. *Birth registration in rural areas.*—The total number of births registered in rural areas during the year under review was 235,793 or 28·40 per mille of population as compared with 230,642 and 27·82 respectively in the previous year. Considering the registration circles individually, the highest rate was recorded in the Gossaigaon circle (61·40) in the Goalpara district followed by North Lakhimpur (43·14) in the Lakhimpur district, Kalaigaon (42·96) in Darrang, Hailakandi (39·30) in Cachar, Dhakuakhana (38·43) in Lakhimpur and Lakhai (38·23) in Sylhet district. The circles reporting low birth-rates were Sorbhog (7·70) in Kamrup and Margherita (9·72) in Lakhimpur.

The low rates are probably due to defective registration.

7. *Deaths and death-rates.*—The death-rate of the province for the year 1939 was 19.25 against 20.90 in the preceding year, and is compared below with rates of other provinces in India and Burma.

Province	1	Death-rate		
		1939	1938	1934-38
		2	3	4
Assam *	...	19.25	20.90	19.63
Bengal	...	21.85	26.36	24.37
Bihar	...	23.0	23.59	23.3
Orissa	...	28.18	29.49	†
United Provinces	...	23.09	25.82	24.27
Madras	...	25.26	23.46	24.12
Burma	...	25.09	25.73	22.68
Bombay	...	27.55	30.47	28.43
Central Provinces	...	31.07	41.07	36.03
Punjab	...	22.11	26.44	21.80
North West Frontier Province	...	17.27	22.89	20.48
Sind	...	11.55	12.40	12.34

* Figures are calculated on the estimated population.

† As the Province came into existence from 1st April 1936 so quinquennial average could not be given.

8. *Death registration—General.*—The total number of deaths registered in the Province during 1939 was 164,119 as compared with 177,767 in the preceding year, the death-rate per mille of population being 19.25 and 20.90 respectively. The number of deaths registered in 1939 was lower than that recorded in 1938 by 13,648. The quinquennial average was 19.63. The districts of Cachar, Sylhet, Goalpara, Darrang and Lakhimpur returned death-rates above and the other three districts below the quinquennial average. The highest death-rate was recorded in the district of Goalpara (24.92) followed by Cachar (21.61), Darrang (20.63) and Sylhet (20.46). The lowest rate (11.58) was recorded in the Kamrup district.

The appended table shows the number of deaths reported from each district in 1939, as compared with that of 1938:—

Districts	1939	1938	Increase or decrease	
			1	2
Cachar	12,363	11,565		+ 798
Sylhet	60,795	74,865		—14,070
Goalpara	23,627	23,756		—129
Kamrup	11,998	15,076		—3,078
Darrang	12,819	12,299		+ 520
Nowgong	10,088	6,635		+ 3,453
Sibsagar	18,455	16,429		+ 2,026
Lakhimpur	13,974	17,142		—3,168
Total	164,119	177,767		—13,648

The number of male deaths to every 100 female deaths was 109.

9. *Death registration in urban areas.*—The total number of deaths registered during the year under report in urban areas in which registration is compulsory was 3,798 as compared with 3,897 in 1938 yielding a death-rate of 17.21 against 18.15 in 1938. The quinquennial average was 17.40. The highest death-rate was recorded in Golaghat (34.76). The increase is due to a large number of deaths recorded in this town under "Fevers", "Dysentery and Diarrhoea", "Respiratory diseases" and "All other causes". Other high rates were recorded in Hailakandi (22.70), Nowgong (22.49), Dhubri (21.61) and Tezpur (21.12). "Fevers" and "All other causes" were responsible for high rates in each of the towns of Hailakandi and Dhubri and "Fevers", "Dysentery and Diarrhoea" and "All other causes" in case of Nowgong and Tezpur. Low rates were recorded in Nalbari (8.32), and Sibsagar (8.93).

The number of deaths recorded under each of the main heads of mortality in towns in the years 1938 and 1939 are shown in the table below:—

Head of mortality	1939	1938	Increase or decrease in 1939	
			1	2
Cholera	16	139		—123
Small-pox	51	8		+ 43
Fevers	1,020	1,002		+ 18
Dysentery and Diarrhoea	485	534		—49
Respiratory Diseases	493	495		— 2
Injuries	123	125		— 2
All other causes	1,610	1,594		+ 16
Total	3,798	3,897		— 99

10. *Death registration in rural areas.*—The total number of deaths registered in 1939 in rural areas was 160,321 or 19.30 per mille of population against 173,870 and 20.97 in the previous year. The quinquennial average was 19.69.

The number of deaths under each of the main heads of mortality in the years 1938 and 1939 is compared in the subjoined table :—

Head of mortality	1939		1938		Increase or decrease in 1939
	1	2	3	4	
Cholera	...	3,004	11,768	—8,764	
Small-pox	...	2,146	1,641	+ 505	
Fevers	...	102,872	104,685	—1,813	
Dysentery and Diarrhoea	...	11,156	11,391	— 235	
Respiratory Diseases	...	5,488	6,379	— 891	
Injuries	...	1,770	1,906	— 136	
All other causes	...	33,885	36,100	—2,215	
Total	...	160,321	173,870	—13,549	

As in the previous year the highest rate was reported from Gossaigaon circle (47.69) in the Goalpara district. Other circles reporting high rates were Kalaigaon (32.51) in Darrang, Golokganj (32.17), Mankachar (29.95) in Goalpara, Dalgaon (28.80) in Darrang and Lakhai (28.54) in Sylhet.

The cause "Fevers" was mainly responsible for the high death-rates in the areas mentioned above. Other contributory causes was "All other causes".

The lowest rate was returned from Sorbhog (4.12) in the Kamrup district. Low rates were also reported from Boko (5.97) in Kamrup, Sonari (7.72) in Sibsagar and Hajo (7.89) in Kamrup.

11. *Seasonal incidence of mortality.*—Mortality was highest (24.02) in the month of January and lowest (16.55) in September, "Cholera" "Fevers" and Dysentery and Diarrhoea were responsible for the highest death-rate in January.

12. *Registration in hill districts.*—As in previous years births and deaths were registered in the same limited areas in the hill districts.

The population of which according to the census of 1931 was 404,535 and the estimated population for the year 1939 is 442,920.

The birth and death-rates in these areas in 1939 are compared in the table below with those of 1938 :—

Districts	Estimated population under registration	1939		1938	
		Birth-rate	Death-rate	Birth-rate	Death-rate
		1	2	3	4
Garo Hills	...	204,506	26.05	18.81	27.37
Khasi and Jaintia Hills	...	69,235	23.48	16.97	25.07
Lushai Hills	...	142,479	39.65	21.38	40.95
Naga Hills	...	4,274	69.01	53.34	67.90
Sadiya Frontier Tract	...	22,426	28.14	26.58	28.93

(Birth and death-rates for the year 1938 have been recalculated on the estimated population.)

From the above table it will be seen that the birth-rate in all the Hills Districts except Naga Hills was lower than the preceding year. The death-rates except those in the Garo Hills and Lushai Hills were higher than that of the preceding year.

Garo Hills.—The total number of births and deaths registered in the Garo Hills during the year under report was 5,318 and 3,843 respectively as compared with 5,567 and 4,085 respectively in the previous year. The prominent diseases were malaria and *Kala-azar* and as usual, they were prevalent in the northern and western borders of the district. Twenty deaths from cholera were recorded against 188 deaths in the previous year. A total of 3,117 persons was inoculated with cholera vaccine. There were 9 deaths from small-pox against nil in the previous year. These deaths occurred near Mahendraganj on the south-western boundary of the district. The infection was probably imported from the Mymensingh district of Bengal. There were 1,753 deaths from fever during the year under report as compared with 1,016 deaths in the previous year. A total of 570 cases was treated in 1939 against 378 in the previous year. In the Tura Leper Colony 128 lepers were treated during the year under review. Seventy-five packets of quinine were sold in 1939 as compared with 62 in the previous year.

Khasi and Jaintia Hills.—The total number of births and deaths registered in the Khasi and Jaintia Hills during 1939 was 1,626 and 1,175 respectively during the year under review a total of 28 cases with 11 deaths from cholera were reported from rural areas, in the Shella Confederacy on the border of Sylhet district.

A total of 27,176 cases of malaria was treated in the dispensaries of the district as compared with 23,815 in the year 1938. In 1939, six hundred and five boxes of quinine reinforced Cinchona Febrifuge tablets were sold against six hundred and nine boxes in 1938.

The total number of births and deaths registered in Shillong during 1939 was 750 or 30.71 per mille and 348 or 14.26 per mille respectively as compared with 763 or 31.83 per mille and 366 or 15.27 per mille respectively in the preceding year.

The table below shows the number of cases and deaths from infectious diseases recorded by the Shillong Municipality in 1939:—

Disease					Attacks	Deaths
Diphtheria	...	...	...	...	4	1
Enteric fever	...	...	...	...	27	4
Diarrhoea	...	...	...	...	1	1
Kala azar	...	...	...	...	3	2
Tuberculosis	...	...	...	...	30	19
Other diseases	...	...	...	...	5	...
Total	...	...	...	...	70	27

Lushai Hills.—The general health of the district was fair during the year under review. There was no epidemic of cholera or small-pox in the district, only two sporadic cases of cholera were treated during the year. The people of the district suffer most from Malaria. A total of 916 packets of quinine was sold during the year as compared with 1048 in 1938. A total of 7 cases of syphilis was treated in 1939 against 32 in 1938. Fifty-four cases of yaws were treated during the year under review as compared with 88 in the previous year. A total of 11 cases of leprosy was treated against 8 in 1938.

Naga Hills.—The population of the Naga Hills is 178,844, but registration of Births and Deaths is carried out in the Kohima town and Dimapur rural circle the estimated population of which is only 4,274. The Birth and Death rates therefore are for this small population amounting to about 2.69 per cent. of the population of the district. The birth rate and death rate of the district was 69.01 and 53.3 respectively in 1939 as compared with 67.90 and 52.71 respectively in 1938. The district was free from cholera and small-pox as in previous year. Twelve cases with two deaths of cerebrospinal meningitis occurred in rural areas. During a survey of suspected Wazia area in the Mokokchung subdivision 23 cases of Kala-azar were detected and brought under treatment. Periodical survey of the areas by the Travelling Sub-Assistant Surgeon has been arranged. Eighty-two packets of quinine were sold during the year as compared with sixty-seven in the previous year.

Malaria is endemic more or less throughout the district. Its incidence was particularly high during the rains, in the villages on the lower range and bordering on the plains. Anti-malaria work is confined to Dimapur. Treating the water collections with malariol is being carried out under Assam Medical Research Society. A Malaria Inspector with two coolies remained engaged for 8 months during the year. Larvae collected were sent to Shillong for identification.

Sadiya Frontier Tract.—The total number of births and deaths recorded in 1939 was 621 and 592 respectively. The district was free from cholera and small-pox during the year under report. Twelve lepers were treated in the Pasighat dispensary. Anti-malaria measure was carried out at Pasighat. Oiling was carried out throughout the year in all the breeding places once in ten days from 1st January to 15th February and once in a week during the remaining period except from 23rd April to 30th May when no oil was available on account of labour trouble at Digboi. Preventive measures was carried out by way of enforcing compulsory use of mosquito nets among the Assam Rifles people and explaining to the general public regarding the utility of mosquito nets. Bamber oil was issued to the night sentries to smear on the exposed part of their bodies to keep off mosquitoes. Jungles and shrubs in and near about the station were cleared. Pyrocide was spread twice in a week in 2nd Assam Rifles barracks and married lines. Seventy-two packets of quinine were sold as in the preceding year.

As a result of survey of Abor villages near Pasighat 145 suspected and 21 positive cases of *Kala azar* were detected. A temporary shed near the Pasighat Civil Hospital has been constructed and the positive cases have been compelled to come under treatment.

Manipur State.—Births and deaths are not recorded in this State. A total of 639 attacks and 222 deaths from cholera and 6 attacks from small-pox were reported during the year under review. There were 11 attacks and 9 deaths from cerebrospinal fever. The disease was confined to Kukis. It is reported that evidence of Iodine deficiency is most marked among Kukis as is shown by their greater susceptibility to Goitre. Three packets of quinine treatments were sold as compared with eight in the preceding year.

13. *Registration in Tea Gardens.*—The table below shows the birth and death rates reported from the Tea Estates during the year 1939 as compared with those of the preceding year:—

Districts	Birth-rate		Death-rate			
	1939	1938	1939	1938		
			2	3		
1	2	3	4	5		
Cachar	37.45	34.95	22.08	22.35
Sylhet	25.19	28.50	11.48	15.66
Goalpara	44.76	44.12	33.20	31.54
Kamrup	35.01	38.21	19.83	26.35
Darrang	37.19	32.41	23.40	20.51
Nowrang	27.60	21.50	16.94	15.15
Sibsagar	41.58	42.28	24.05	28.76
Lakihmpur	36.71	34.01	22.89	27.69
Total	35.80	34.45	20.96	23.60

The total number of births and deaths on Tea Estates in 1939 was 36,813 and 21,551 respectively as compared with 33,868 and 23,197 respectively in the preceding year. The largest number of deaths was recorded under "Other causes" (9,861) and this is followed by "Fevers" (3,989), "Dysentery and Diarrhoea" (3,683) and "Respiratory Diseases" (3,604). A total of 67 deaths from Cholera and 17 deaths from Small-pox was recorded during the year under report. There were 115 deaths from *Kala-azar* during the year against 133 deaths in the preceding year.

14. *Registration on railways.*—The total number of births and deaths within railway limits during the year 1939 was 158 and 156 against 286 and 229 respectively in the preceding year. As in previous years the largest number of births and deaths was reported from Lakhimpur district. The highest mortality was recorded under "Other causes" (62) followed by "Respiratory Diseases" (54) during the year under review.

15. *Mortality according to sex.*—A total of 85,429 males and 78,690 females died in 1939 as compared with 91,589 and 86,154 respectively in 1938. The death-rate for males was 18.98 and that for females 19.56. The rates are lower than the corresponding rates in 1938 by 1.42 and 1.90 respectively. They were less by 0.35 for males and by 0.41 for females than the rates of the previous quinquennium. The female death-rate exceeded the male death-rate in all the districts except Sylhet. The highest death-rate both for males and females was returned from Goalpara *viz.* (24.85) for males and 25.01 for females. The lowest death-rates for both the sexes were returned from Kamrup district. *viz.*, 11.48 for males and 11.69 for females.

16. *Mortality according to classes.*—During the year the number of deaths according to classes was as follows:—

Hindus 92,923 ; Muslims, 59,757 ; Christians 1,696 ; Budhists 200; other classes 9,543.
The death-rates per mille by classes are shown in the subjoined table:

Classes	1	2	3	Difference		
				Ratio of deaths per mille, 1939	Ratio of deaths per mille, 1938	4
Hindus	...	17.94	18.77			-0.83
Muslims	...	20.17	23.58			-3.41
Christians	...	20.14	22.90			-2.76
Budhists	...	17.01	11.41			+5.60
Other classes	...	33.44	31.82			+1.62

The district of Goalpara recorded the highest mortality rate both among the Hindus (21.66) and Muslims (25.32). The lowest rates (12.07) and (8.24) for these two principal communities were returned from the Kamrup district.

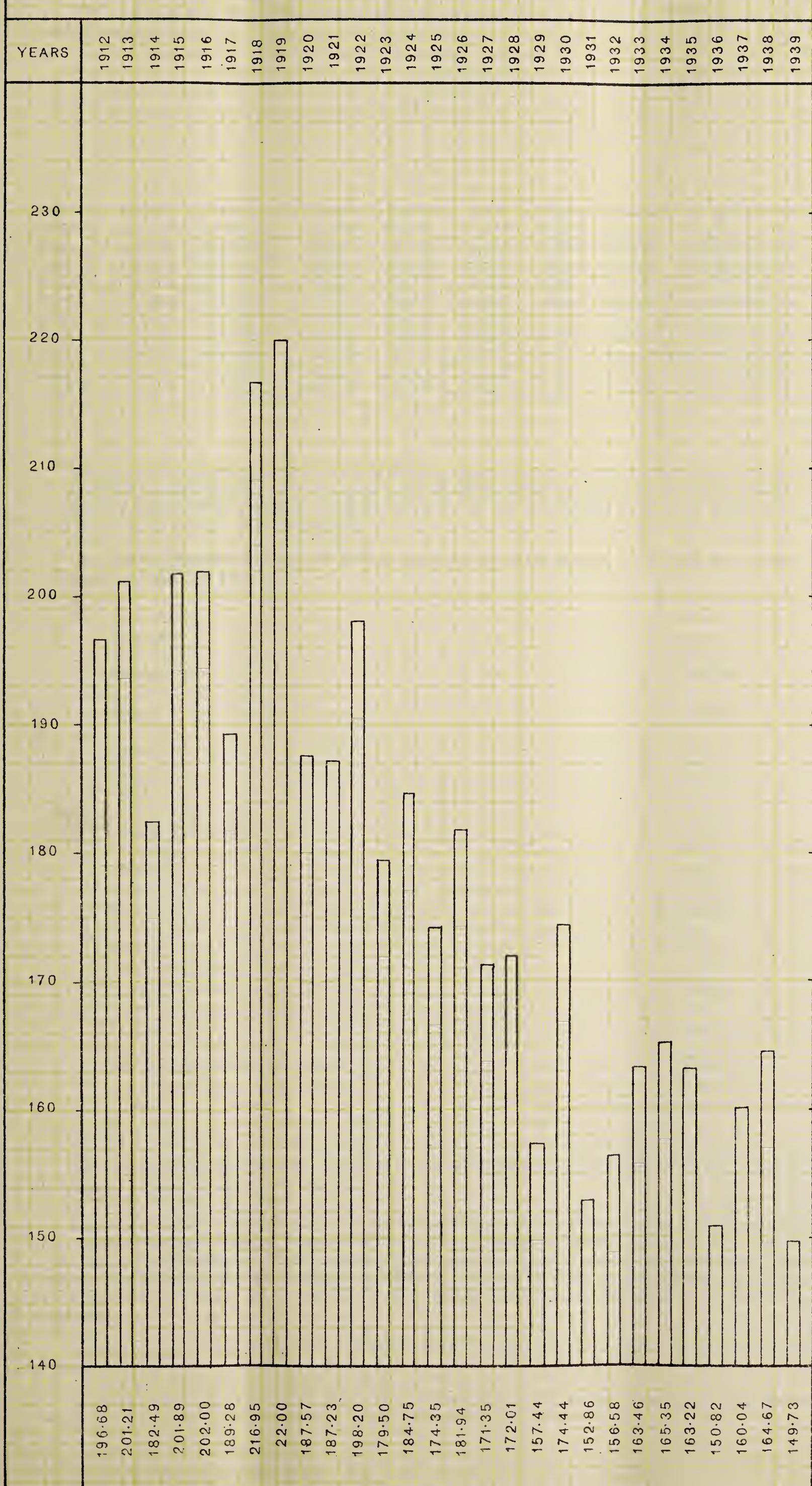
17. *Mortality according to age.*—The table below shows the rate of mortality by sexes in different age groups and the excess or defect of the female death-rates:—

Age periods	1	1939		Excess or defect of female death-rate
		Male	Female	
Under one year	...	156.61	142.34	-14.27
1 and under 5	...	23.42	22.25	-1.17
5 and under 10	...	10.37	10.17	-0.20
10 and under 15	...	6.90	6.28	-0.62
15 and under 20	...	8.78	10.81	+2.03
20 and under 30	...	3.17	13.06	+4.89
30 and under 40	...	11.16	14.40	+3.24
40 and under 50	...	16.80	16.95	+0.15
50 and under 60	...	29.21	29.56	+0.35
60 and upwards	...	73.96	73.74	-0.22
Total	...	18.98	19.56	+0.58

It will be seen that the highest mortality was recorded amongst infants under one year of age and lowest amongst both males and females between 10-15 years of age.

CHART I

Infant Mortality in Assam 1912-1939



The table below shows the deaths and death-rates amongst infants calculated on the births for last 10 years:—

Year	Births			Death of infants			Death-rate of infants		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1	2	3	4	5	6	7	8	9	10
1929	116,177	108,417	224,594	19,374	15,987	35,361	166.76	147.46	157.44
1930	110,400	104,345	214,835	20,166	17,310	37,476	182.66	165.75	174.44
1931	115,139	107,867	223,006	18,465	15,624	34,089	160.37	144.84	152.86
1932	122,845	115,474	233,319	20,398	16,918	37,316	166.05	146.51	156.58
1933	126,882	119,236	246,118	21,903	18,328	40,231	172.62	153.71	163.46
1934	125,740	117,016	242,756	21,893	18,250	40,143	174.11	155.96	165.36
1935	123,668	116,230	239,898	21,015	18,140	39,155	169.93	156.07	163.22
1936	123,839	115,865	239,704	19,630	16,522	36,152	158.51	142.59	150.82
1937	128,233	119,991	248,224	21,350	18,377	39,727	166.49	153.15	160.04
1938	122,346	114,834	237,180	21,074	17,983	39,057	172.25	156.60	164.67
1939	125,573	116,855	242,428	19,666	16,633	36,299	156.61	142.34	149.73

The infant mortality of the Province in 1939 was lower than that of any other year. A total of 36,299 infants died during the year and of these 16,889 or 46.52 per cent died within one month of birth, 12,302 or 33.89 per cent. died between one to six months and 6,764 or 18.63 per cent. died between six months to twelve months.

The infant mortality of Assam for 1939 is compared in the appended table with that of other provinces in India and Burma:—

Provinces	Rates							
Assam	149.73
Bengal	146.65
Orissa	197.41
Bihar	155.3
Central Provinces	218.62
Madras	175.50
Burma	203.85
Bombay	152.70
United Provinces	139.45
Punjab	167.57
North West Frontier Province	130.52
Sind	105.75

The infant mortality rate in Assam for 1939 compares favourably with that of Orissa, Central Provinces, Madras, Bombay and Burma.

As pointed out in previous reports, the heavy mortality amongst infants is due in large measure to immaturity and ignorance on the part of the mother, improper feeding, and exposure of infants to insanitary surroundings. Vigorous educational measures in this respect are indicated. The number of still births recorded in 1939 was 8,896 viz., Hindus (4,425), Muslims (4,090), Christians (130), Budhists (10) and other classes (241). Out of 8,896 still births 4,881 were males and 4,015 females.

The percentage of still births to live births was 3.67 in the year under report as compared with 3.89 in previous year.

A chart showing the infant mortality rate in Assam from 1912 to 1939 is attached (see chart No. 1).

18. The defects in the registration of vital occurrences during the year under report in compulsory urban areas, as ascertained by the vaccination inspecting staff, are shown in the table below:—

Municipalities	Unregistered vital occurrences during the year 1938				Recorded vital occurrences		Percentage of omissions	
	Births		Deaths		Births		Deaths	
	1	2	3	4	5	6	7	
Silchar	11	4	340	215	3.23 1.86
Hailakandi	71	52	...
Haflong	18	9	36	23	50.00 39.13
Sylhet	1	716	408	...
Karimganj	3	3	158	107	1.90 2.80
Maulvi Bazar	107	47	...
Srimangal	10	...	71	20	14.08 ...
Habiganj	250	141	...
Sunamganj	2	4	169	81	1.18 4.94
Dhubri	25	8	385	229	6.49 3.49
Goalpara	28	4	197	103	14.21 3.88
Gauripur	24	10	277	120	8.66 8.33
Gauhati	27	14	728	392	3.71 3.57
Barpeta	1	...	770	328	1.13 ...
Polashbari	6	5	155	57	3.87 8.77
Tezpur	4	3	325	224	1.23 1.34
Mangaldai	3	3	58	31	5.17 9.68
Nowgong	15	11	435	265	3.45 4.15
Jorhat	13	2	306	183	4.25 1.09
Sibsagar	4	1	158	67	2.53 1.49
Golaghat	6	6	141	171	4.25 3.51
Nazira	1	7	82	43	1.22 16.28
Dibrugarh	10	2	459	348	2.18 .57
North Lakhimpur	69	43	...
Doom Dooma	17	19	...
Tinsukia	6	...	135	74	4.44 ...
Shillong	6	5	750	348	.80 1.44

During the year 1939, 191 persons were prosecuted in the municipalities where registration is compulsory for failing to report vital occurrences and 121 were convicted. The fines imposed amounted to Rs.103.12. No omissions were detected in the towns of Hailakandi, Maulvibazar, Habiganj, North Lakhimpur and Doom Dooma.

19. *Inspection of village registers of vital statistics.*—The vaccination inspecting staff verified the records 43,160 births and 26,676 deaths as compared with 43,048 and 24,204 respectively in the previous year. The percentage of omissions detected was 3.56 in respect of births and 2.36 in respect of deaths as compared with 2.07 and 1.18 respectively in 1938. As in previous years, the district of Sylhet stood first with 16,054 entries tested, followed by Darrang with 11,039 and Nowgong with 9,536. Sibsagar stood last with 3,763 entries tested during the year. Out of a total of 242,428 births and 164,119 deaths only 43,160 and 26,676 respectively were verified, i.e., percentages of 17.80 and 16.25 respectively. More extensive verification of vital statistics is necessary.

20. *General accuracy of vital statistics and improvement made during the year.*—During the year under report there was no change in the agencies engaged in the collection of vital statistics either in urban or rural areas. As usual, weekly epidemic reports and monthly returns of vital statistics were regularly published in the *official Gazette* and in certain papers for the information of the general public.

21. *Emigration and Immigration.*—The statement below shows the number of labourers entered in Assam during 1939 by different routes:—

Month	Total number of immigrants entering Assam during 1939						
January	7,824
February	10,325
March	7,902
April	4,120
May	1,798
June	612
July	271
August	114
September	46
October	68
November	86
December	548
Total	33,714

There were 129 cases of sickness among the immigrants of whom 8 died.

CHART II

Mortality from CHOLERA in Assam 1912-1939

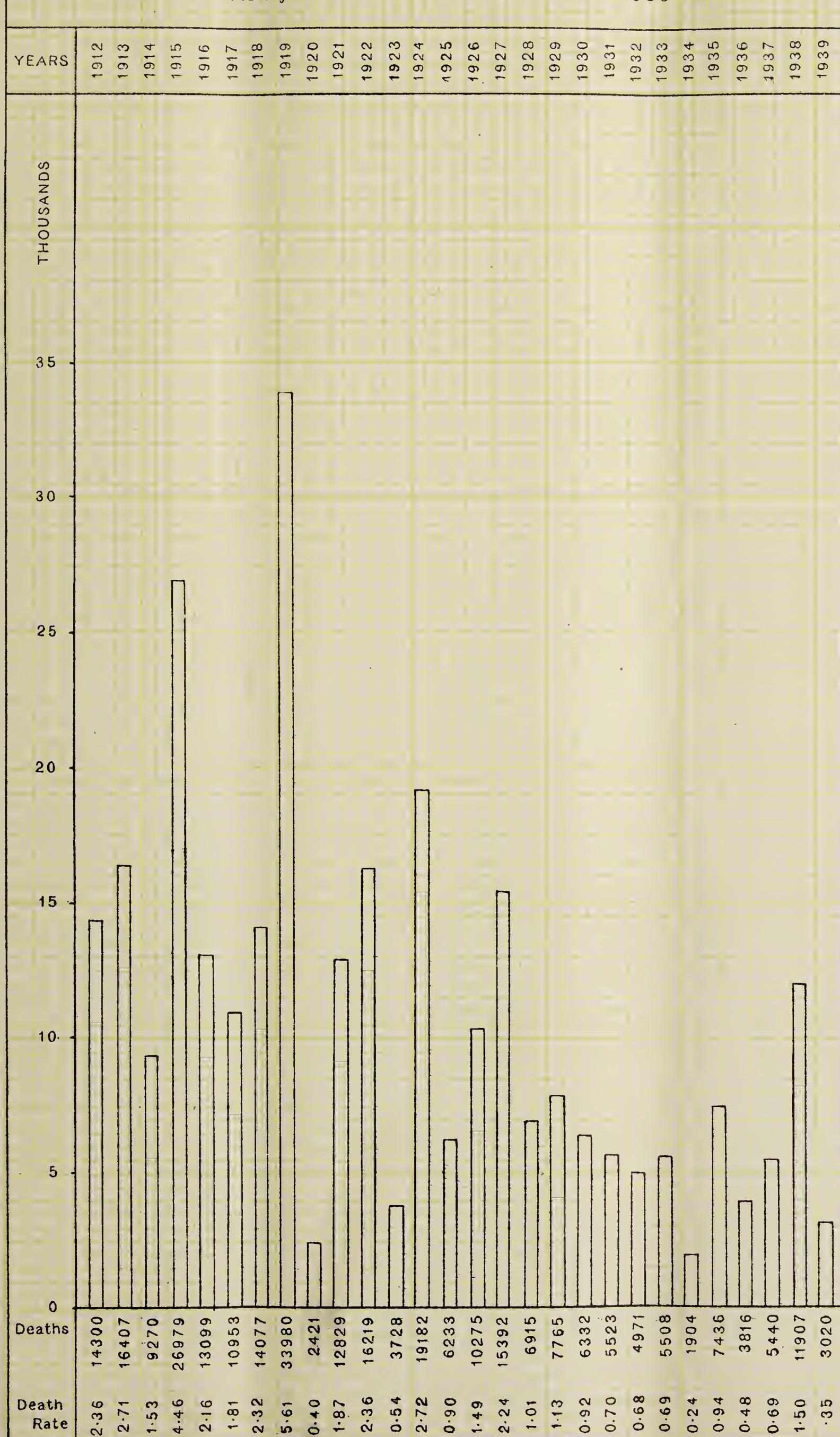
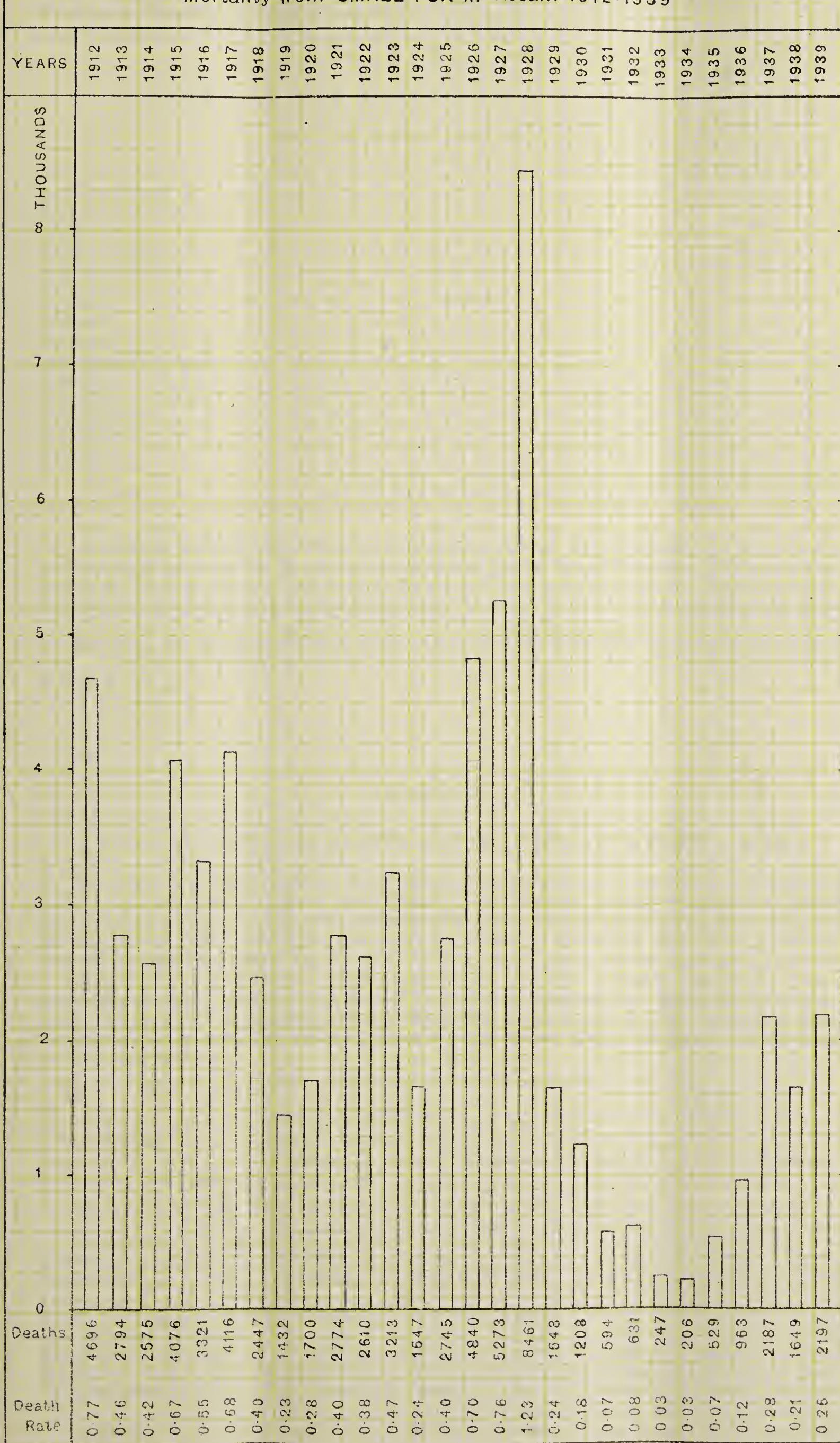


CHART III

Mortality from SMALL POX in Assam 1912-1939



The statement below shows the number of sick labourers treated month by month in the Emigration Hospital at Gauhati during the year 1939:—

Names of diseases	January	February	March	April	May	June	July	August	September	October	November	December	Total	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Ankylostomiasis	1	...	...	...	1	
Broncho-Pneumonia	...	1	...	1	...	...	...	...	...	...	...	...	2
Chicken-pox	2	...	...	...	...	...	...	...	...	2	
Conjunctivitis	...	6	11	16	22	16	...	...	...	...	...	...	71
Colic-Intestinal	1	...	...	...	1	
Diarrhoea	...	2	1	1	...	...	...	...	...	...	...	1	5
Dysentery	1	2	2	2	...	...	...	...	...	...	7	
Enteritis	1	...	...	...	...	...	...	...	...	1	
Influenza	...	1	...	...	1	...	...	...	...	...	...	...	2
Inflammation of glands	1	...	...	...	...	...	...	...	...	1	
Malaria	...	5	9	4	4	...	...	...	...	...	...	...	22
Skin disease (Lichen)	7	...	...	1	...	...	...	...	...	8	
Pneumonia	1	...	...	...	...	...	...	1	2	
T. B. Lungs	...	1	...	...	...	...	...	...	...	...	...	...	1
Urticaria	1	...	...	...	...	...	...	...	...	1	
Total	16	22	36	30	18	...	1	...	2	...	2	127

22. *Railway Labour Camps.*—No new railway construction was undertaken in Assam during the year under report either by the Eastern Bengal or Assam-Bengal Railways. There were however three labour camps *viz.*, Dittockcherra Ballast and Boulder siding camps in the Cachar district and camp at Behubar quarry in Sibsagar district. The population of these camps varied from 482 to 1,228. Kutcha huts were provided and their surroundings were kept neat and clean. Malaria was prevalent in the Dittockcherra camp. General health of the labourers was not very satisfactory. A Sub-Assistant Surgeon and a compounder were employed for treatment and prevention of disease.

CHAPTER III

THE STATE OF PUBLIC HEALTH AND THE HISTORY OF CHIEF DISEASES

23. *The State of Public Health in the Province.*—The information recorded in the preceding chapter indicates that the state of Public Health in the Province was fairly satisfactory during the year under report. Deaths under all heads of mortality with the exception of 'Small-pox' were less than that in 1938. The largest decrease in the number of deaths was under head "Cholera" followed by "All other causes".

During the year 164,119 deaths were recorded, 3,020 of which were from cholera, 2,197 from small-pox, 103,892 from fevers, 11,641 from dysentery and diarrhoea, 5,981 from respiratory diseases, 1,893 from injuries and 35,495 from all other causes. The table below shows the death-rates per mille from the chief causes of deaths during 1939, as compared with the decennium ending 1938:—

Diseases	1939			1929-38						
	Urban	Rural	Combined	Urban	Rural	Combined				
				1	2	3	4	5	6	7
Cholera	0.07	0.36	0.35	0.34	0.72	0.34	0.72	0.71
Small-pox	0.23	0.26	0.26	0.09	0.12	0.09	0.12	0.11
Plague
Fevers	4.62	12.39	12.19	4.58	11.82	4.58	11.82	11.63
Dysentery and Diarrhoea	2.20	1.34	1.36	2.06	1.17	2.06	1.17	1.19
Respiratory Diseases	2.23	0.66	0.72	2.16	0.69	2.16	0.69	0.73
Injuries	0.56	0.21	0.22	0.54	0.23	0.54	0.23	0.24
All other causes	7.29	4.08	4.16	6.47	3.95	6.47	3.95	4.01
Total	17.20	19.30	19.25	16.24	18.69	16.24	18.69	18.63

The death-rate for the year 1939 was higher than the decennial average by 0.62.

24. *Cholera*.—The number of deaths from cholera reported during the year was 3,020 against 11,907 in the previous year. The death-rate per 1,000 of population was 0.35 as compared with 1.50 in the preceding year. The decennial average was 0.71 as shown in the table below:—

Districts	Death-rate per mille	
	1939	1929-38
Cachar	0.26	0.49
Sylhet	0.80	1.15
Goalpara	0.05	0.75
Kamrup	0.22	1.06
Darrang	0.03	0.46
Nowgong	0.13	0.13
Sibsagar	0.04	0.14
Lakhimpur	0.01	0.07
Total	0.35	0.71

During the year under report there was no serious epidemic of cholera in any district. The largest number of deaths (1,470) occurred in January and the lowest (11) in September. The highest death-rate (0.80) from this disease was reported from the Sylhet district followed by Cachar (0.36) and Kamrup (0.22). Deaths from cholera were reported from 88 out of 149 registration circles and from 1,192 out of 28,333 villages. Deaths from cholera were reported from 8 towns. The highest number of deaths in towns (3) was reported from each of the towns of Silchar and Barpeta. The rural circle of Sulla in the Sylhet district reported the highest death-rate (3.74). The other circles in the district reporting high death-rates were Sunamganj (2.27), Dharampassa (2.18), Derai (1.95) and Chhatak (1.67),

The amount of cholera vaccine issued in the province since 1929 is shown below:—

	c.cs.
1929	356,047
1930	220,532
1931	170,820
1932	169,317
1933	451,884
1934	171,117
1935	475,955
1936	368,898
1937	425,443
1938	986,568
1939	240,476

During the year under review 244,704 doses of bacteriophage were issued. A chart showing the provincial mortality from cholera from 1912-1939 is attached (See Chart No. II).

25. *Cholera in Tea Estates*.—In 1939, a total of 67 deaths from cholera was reported from tea estates against 150 in the previous year. The corresponding ratios per mille being 0.07 and 0.14 respectively. The largest number of deaths was reported from Cachar district (40).

26. *Small-pox*.—During the year 1939, a total of 2,197 deaths from small-pox was reported against 1,649 in 1938 showing an increase of 548 deaths. The death-rate was 0.26 per mille as compared with 0.21 in 1938 and 0.11 the decennial average as noted below:—

Districts	Death-rate per mille	
	1939	1929-38
Cachar	0.07	0.07
Sylhet	0.60	0.16
Goalpara	0.01	0.14
Kamrup	0.13	0.17
Darrang	0.13	0.06
Nowgong	0.16	0.09
Sibsagar	0.08	0.04
Lakhimpur	0.01	0.06
Total	0.26	0.11

During the year under review small-pox was reported from 878 villages out of 28,333 villages. Deaths from small-pox were recorded in 70 registration circles out of 149. The largest number of deaths was recorded in May (358) and the smallest in November (71). Sylhet with its death-rate (0.60) heads the list followed by Nowgong (0.16). A total of 51 deaths from small-pox was reported from towns and 2,146 from rural circles. In the year under report 349 children under one year of age and 530 between one and ten years of age died of small-pox as compared with 146 and 284 respectively in the previous year. The remaining deaths (1,318) occurred among adults. Chart showing the provincial mortality from small-pox from 1912-1939 is attached (See Chart No. III).

27. *High rate of mortality from small-pox in individual towns and rural areas*.—Deaths from small-pox were reported from Sylhet and Barpeta towns. The death-rate was 1.21 and 1.27 respectively. Among rural circles Fenchuganj in the Sylhet district reported the highest death-rate (4.36) followed by Jagannathpur (3.18), Sylhet (2.32) and Biswanath (2.29), Chhatak (1.58), Derai (1.43), and Balaganj (1.34) all in Sylhet district. It will be observed that the high death-rates of small-pox is solely confined to Sylhet district.

CHART IV

Mortality from FEVERS in Assam 1923-1939



Small-pox was prevalent in the town of Sylhet throughout the whole year. There were 92 attacks with 28 deaths during the year. It assumed an epidemic form in the later part of the year and continued till February 1940. Besides the three permanent vaccinators four more temporary vaccinators were appointed by the Municipality to cope with the situation. A Sub-Assistant Surgeon of the Public Health Department was deputed for small-pox duty. The Assistant Director of Public Health, Surma Valley and Hill Division, supervised the vaccination work, I also visited the town and offered advice to the Additional District Magistrate, Sylhet.

There are no special hospitals in Assam for the isolation and treatment of small-pox cases. Particulars of cases treated in the Infectious Diseases Hospitals where such exist, are given in table below which also shows the towns where such hospitals exist:—

Municipal towns	1	2	3	Vaccinated as evidenced by presence of one or more vaccination cicatrices			6	7	8
				4	5	6			
Dhubri
Gauhati	3	1	..	2	..	..
Shillong
Tezpur

28. *Plague*.—No case of plague was reported from any district during the year under review.

29. *Fevers*.—The total number of deaths reported under the head "Fevers" during the year 1939 was 103,892 against 105,687 in the preceding year, showing a decrease of 1,795. The death-rate per mille was 12.19 against 13.33 in 1938 and 11.63 during the last decennium as shown in the appended table:—

Districts	Death-rate per mille		
	1939	1929-38	
Cachar	10.70	10.38	
Sylhet	11.18	11.65	
Goalpara	23.37	19.81	
Kamrup	9.01	9.38	
Darrang	12.55	12.56	
Nowgong	13.42	9.63	
Sibsagar	10.46	9.24	
Lakhimpur	8.73	9.40	
Total	12.19	11.63	

Fevers accounted for 63.30 per cent. of the total provincial mortality against 59.46 in the preceding year. The figures include deaths due to malaria, *kala azar* and also deaths from various diseases, having fever as their predominant symptom. It is therefore not possible to determine what percentage of total deaths under this head is due to malaria. The point is considered further under the paragraph dealing with malaria. The largest number of deaths was recorded in July (10,539) and the smallest in February (7,034). The highest mortality rate from fevers was recorded in the district of Goalpara (23.37) and lowest (8.73) in Lakhimpur.

As in previous years Quinine and Cinchona Febrifuge were distributed free to indigent malaria patients throughout the province. A Chart showing the provincial mortality from "Fevers" from 1925 to 1939 is attached (see Chart No. IV).

30. *Dysentery and Diarrhoea*.—Under the head of dysentery and diarrhoea 11,641 deaths were registered during the year 1939 against 11,925 in the preceding year. The death-rate per mille of population was 1.37 as compared with 1.50 in 1938 and 1.19 during the last decennium as shown in the appended table:—

Districts	Death-rate per mille		
	1939	1929-38	
Cachar	2.37	1.82	
Sylhet	1.24	1.07	
Goalpara	0.35	0.22	
Kamrup	0.43	0.49	
Darrang	1.69	1.57	
Nowgong	1.18	0.57	
Sibsagar	2.36	2.14	
Lakhimpur	2.21	2.23	
Total	1.37	1.19	

The highest number of deaths was recorded in January (1,278) and the lowest in September (748). The highest mortality rate was reported from the Cachar district (2.37) followed by Sibsagar (2.36). The lowest rate was returned from Goalpara (0.35).

31. *Respiratory Diseases.*—The total mortality from Respiratory diseases during the year under review was 5,981 against 6,874 in 1938. The corresponding death-rates for the two years were 0.70 and 0.87 respectively. The quinquennial average was 0.79. The highest mortality was recorded in April (571) and the lowest in September (358). The highest death-rate was recorded in the district of Lakhimpur (1.66) followed by Cachar (1.38). The lowest rate was returned from the Goalpara district (0.24).

32. *Influenza.*—Influenza occurred in sporadic form during the year. The mortality from influenza is included under "Fever". The total number of deaths from this disease during 1939 was 590 against 628 in 1938. The death-rates per mille of population were 0.07 for both the years.

33. *Injuries and Other Causes.*—During the year under report 1,893 deaths from "Injuries" and 35,495 deaths from "Other causes" were registered as compared with 2,031 and 37,694 respectively in the preceding year. The death-rates per mille of population were 0.22 and 4.16 respectively in 1939 against 0.25 and 4.75 in the preceding year.

Cerebro-spinal fever.—During the year there were 23 cases of cerebro-spinal fever, viz., 12 in Naga Hills and 11 in Manipur State, and 11 deaths from cerebro-spinal fever were reported from 2 districts, viz., Manipur State (9); and Naga Hills (2) against 235 deaths in the previous year.

Typhoid Fever.—There were 59 deaths from Typhoid Fever reported from 13 towns during the year under report, viz., Dibrugarh (11), Silchar (8), Sibsagar (8), Dhubri, (7), Tezpur (7), Sylhet (5), Karimganj (3), Gauhati (3), Jorhat (?), Tinsukia (2), Gauripur (1), Barpeta (1) and Nowgong (1).

34. *Yaws.*—A total of 3,424 cases of yaws was treated in 1939 as compared with 3,234 cases treated in the preceding year. In Nowgong district one new centre was opened and two Sub-Assistant Surgeons received training in the diagnosis and treatment of yaws. In Kamrup district two Medical Officers of Gauhati Local Board and one Sub-Assistant Surgeon of the Public Health Department were trained in the diagnosis and treatment of yaws.

35. *Minor eye complaints.*—A total of 18,264 cases of minor eye complaints were treated in 1939 by the Public Health Department Dispensaries as compared with 9,700 in the previous year. No special reason can be attributed to the large increase.

36. *Naga-sore.*—During the year under review 456 cases of Naga-sore were treated in the Kamrup district as compared with 25 cases in the previous year. The disease broke out in an epidemic form throughout the district. Additional moving treatment centres had to be engaged to cope with the outbreak.

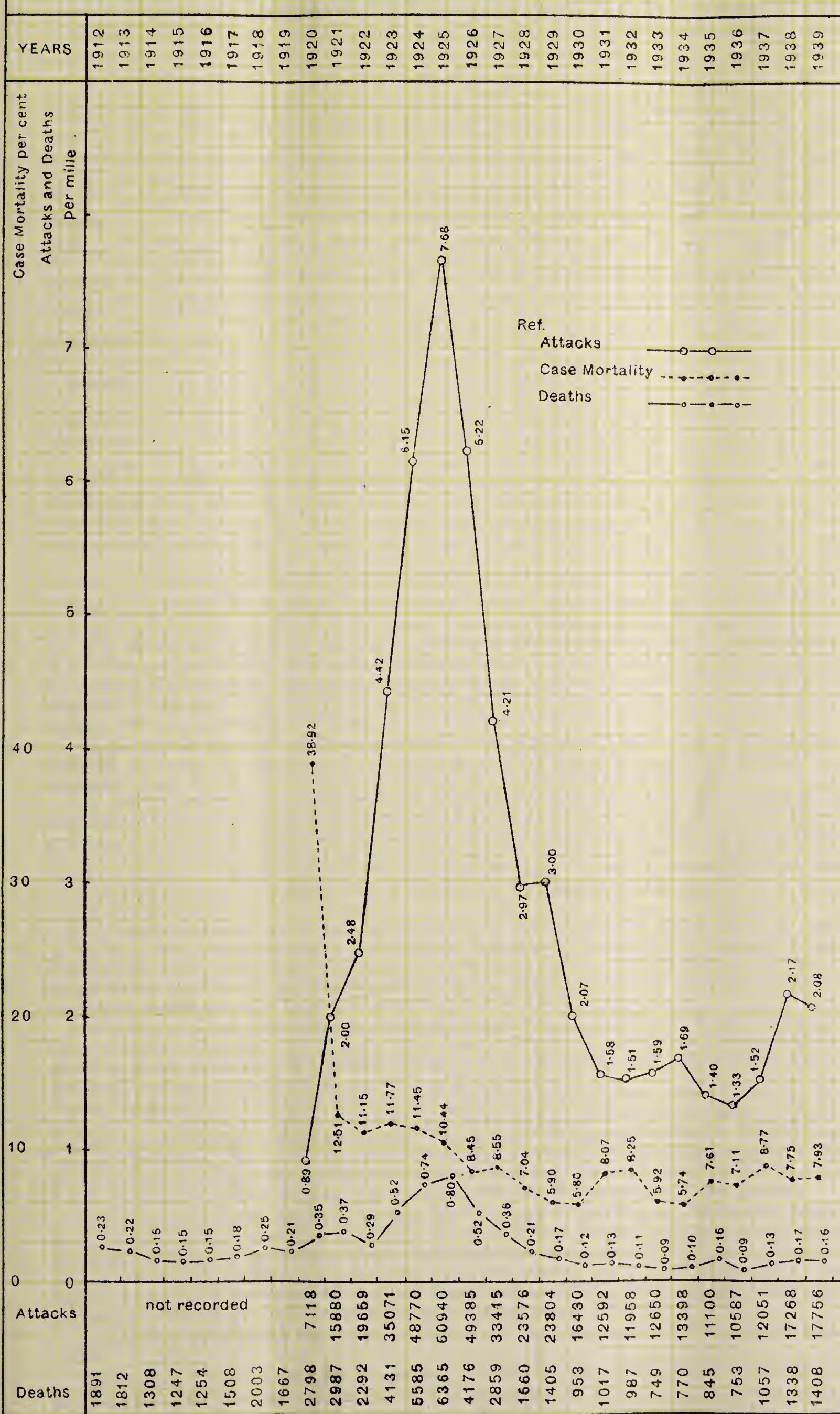
37. *Kala-azar.*—The tables show the number of deaths and cases of *kala-azar* treated from 1929 to 1939:—

Table showing deaths from Kala-azar from 1929 to 1939

Districts	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	
1	2	3	4	5	6	7	8	9	10	11	12	
Cachar	...	3	2	4	4	2	6	7	2	4	5	8
Sylhet	...	429	74	246	296	146	227	260	173	207	268	152
Goalpara	...	135	112	121	122	92	61	100	84	135	106	205
Kamrup	...	180	102	160	152	129	151	176	61	77	104	58
Darrang	...	241	185	222	155	167	136	91	155	256	256	181
Nowgong	...	178	132	129	132	110	78	52	121	196	101	170
Sibsagar	...	87	58	71	78	64	84	101	99	126	447	553
Lakhimpur	...	1	2	...	2	4	...	...	...	...	...	1
Khasi and Jaintia Hills.	4	...	10	5	5	12	
Naga Hills	...	1	1	...	1	1	...	...	...	...	...	9
Lushai Hills	1	...	...	...	...	...	...
Garo Hills	...	149	84	64	43	34	23	58	47	51	46	47
Sadiya Frontier Tract.	1	...	...	1	...	...	...	1	...	...	...
Manipur State	...	1	...	...	...	...	...	...	...	...	...
Total	...	1,405	953	1,017	987	749	770	845	753	1,057	1,338	1,396

CHART V

KALA AZAR in Assam 1912-1939



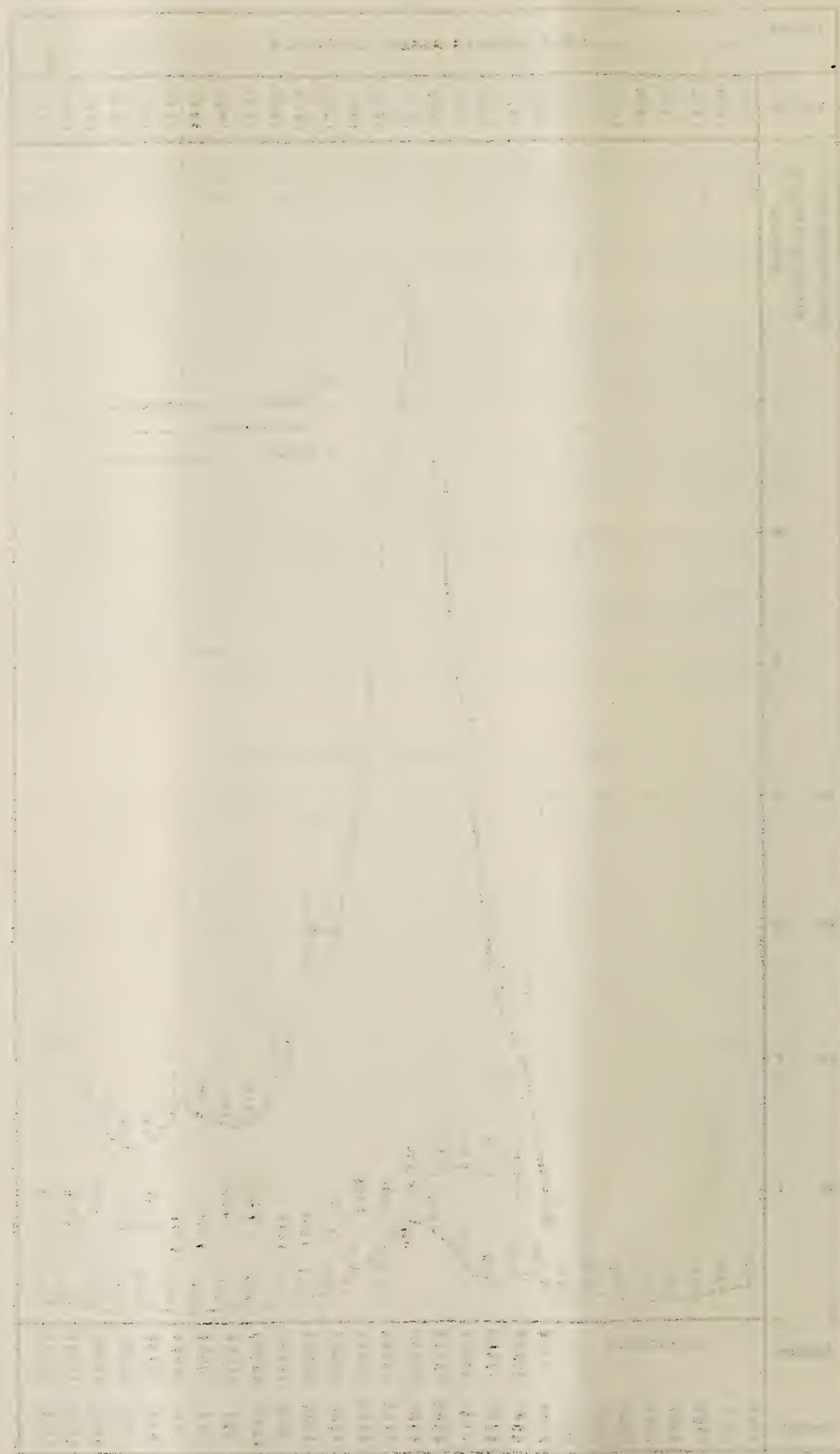


Table showing cases of Kala-azar treated from 1929 to 1939.

Districts		1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
1	2	3	4	5	6	7	8	9	10	11	12	
Cachar	..	470	376	370	391	472	529	478	574	445	716	669
Sylhet	..	9,162	6,726	5,512	4,719	4,210	4,612	3,869	3,645	3,672	4,622	4,029
Goalpara	..	2,389	1,439	992	1,089	1,159	1,107	1,245	1,276	2,046	2,541	2,989
Kamrup	..	2,598	1,814	1,690	2,061	2,223	2,197	1,465	1,309	918	1,189	1,138
Darrang	..	1,399	1,106	942	665	757	876	738	636	514	989	861
Nowgong	..	2,433	1,440	1,057	1,075	1,663	1,726	1,651	1,471	2,317	3,265	3,875
Sibsagar	..	2,387	1,495	1,095	1,269	1,251	1,372	938	864	1,396	3,050	3,315
Lakhimpur	..	23	23	3	12	13	18	12	6	2	13	15
Khasi & Jain-tia Hills.	1	5	..	..	..	..	..	..
Naga Hills	..	9	21	5	16	12	14	7	5	15	39	47
Lushai Hills	4	2	1	..	..	..	..	..	..
Garo Hills	..	2,905	1,905	882	605	850	927	690	793	717	824	808
Sadiya Frontier Tract.	3	2	2	1	2	1	..	..	2	..	..	..
Manipur State	35	83	38	53	36	14	7	8	7	20	10	
Total	..	23,804	16,430	12,592	11,958	12,650	13,398	11,100	10,587	12,051	17,268	17,756

The number of deaths from *kala azar* was greater in 1939 by 58 than that of the preceding year. The number of patients treated was larger by 488. The increase in deaths is shared by the districts of Goalpara, Nowgong and Sibsagar and the increase of cases treated is shared by Goalpara, Nowgong, Sibsagar, Lakhimpur and Naga Hills districts. The method of diagnosis and treatment of *kala azar* was the same as in previous years.

In Cachar district 611 villages were surveyed by the Epidemic Unit staff and Sub-Assistant Surgeons in charge of hospitals and dispensaries and 469 suspected cases were discovered of which 110 were found to be positive. All these cases were brought under treatment.

In Sylhet district as in previous year, the villages within dispensary areas were surveyed by the Medical Officers in charge of dispensaries and Public Health Department Sub-Assistant Surgeons were specially deputed to survey other areas where recrudescence of *kala azar* was suspected. Extensive and detailed surveys were undertaken to trace fresh cases. During the year two dispensaries were opened in the North Sylhet subdivision, *viz.*, one at Moglabazar and the other at Tuakulbazar. The Public Health Department Dispensary at Dharmaghar was closed during the year.

In Goalpara district, survey was carried on as in previous years to detect *kala azar* cases. In Kamrup district, special surveys of Polashbari, Bojragaon, Mandakata, Dhupguri, Tezpur and Beltola areas were done. These surveys were done by the Sub-Assistant Surgeons of Public Health Department specially deputed to do so. Medical officers in charge of dispensaries carried out regular survey work in their respective jurisdiction.

In Darrang district, Dumnikuchi, Barchola, Tezpur area, Rangamati Naharbari-Borgaon area, Sipajhar, Sakhare, Harichinga, Kulaigaon, Goraimari, Dhekiajuli, Majikuchi and Charduar area were thoroughly surveyed during the year. A Public Health Department dispensary at Bhakatpara was opened during the year under review.

In Nowgong district the number of *kala azar* patients increased. The centres showing high increase were Dubaka, Kampur, Dharamtul, Jajari, Borjoha, Kuorital, Chapanalla, Bhurgaon, Jagibhakatgaon, Morigaon, Sadr and Hojai. The increase was probably due to the recrudescence of the disease. All dispensary areas were surveyed and resurveyed to detect even the early cases. Special surveys were undertaken in areas suspected or reported to be infected. A Public Health Department dispensary was opened at Borjuri during the year under review.

In Sibsagar district, incidence of *kala azar* was higher than the previous year. Special stress on *kala azar* problem in the district particularly in the Golaghat subdivision was given. As a result of intensive surveys four new treatment centres were opened at Silikuti, Henchoa, Bebijia, Likson and Bhogagaon and an in-door *kala azar* hospital with 50 beds was under construction at Golaghat for bed-ridden and complicated cases. A new Public Health Department dispensary at Lakwa in the Sibsagar subdivision was also opened during the year.

In the Garo Hills district the incidence of *kala azar* was stationary during the year under review.

38. *Leprosy*.—A total of 4,275 lepers was treated in leper asylums and other centres of treatment under the Medical and Public Health Departments, of these 1,068 lepers were treated on the leper asylums, wards and colonies. In the Medical Department Dispensaries, 1,968

out-patient lepers received treatment. The Public Health Department dispensaries treated 1,239 lepers during 1939, *viz.*, 718 in Sylhet, 56 in Goalpara, 161 in Kamrup, 142 in Darrang, 155 in Nowgong and 7 in Sibsagar. The number of outdoor clinics in the Public Health Department for the treatment of leprosy during the year was 66 against 62 in the preceding year. Sub-Assistant Surgeons of the Public Health Department undertake leprosy surveys in conjunction with *kala azar* and yaws surveys. No special leprosy survey was undertaken during the year. Assistant Surgeons of the Public Health Department carried out propaganda work with the aid of magic lanterns during the year under report as usual. Steps were taken to begin the organisation of a scheme of special Leprosy work in the province under the auspices of the British Empire Leprosy Association. A special leprosy Officer will be trained and appointed for this work. It is hoped that the scheme will be in working during the next year, when advantage will be taken of the proposed visit of Dr. Isaac Santra to Assam.

CHAPTER IV EPIDEMIOLOGY

39. The number of deaths from cholera during the last ten years was as follows:—

1929	...	...	...	...	7,765
1930	...	...	...	...	6,332
1931	...	...	...	...	5,523
1932	...	...	...	...	4,971
1933	...	...	...	...	5,508
1934	...	...	...	...	1,904
1935	...	...	...	...	7,436
1936	...	...	...	...	3,816
1937	...	...	...	...	5,440
1938	...	...	...	...	11,905
1939	...	...	...	...	3,020

There was no serious epidemic of cholera in any district during the year under review but only sporadic cases occurred. In the Sylhet district alone 2,390 persons died from cholera out of 3,020 persons died in the whole province. Cholera was reported from 905 villages in this district.

CHAPTER V FAIRS AND FESTIVALS

40. In the Cachar district two *melas*, *viz.*, Sidheswar and Bhuban Hill *mela* were held as in previous years. Another *mela* was held at Lala during the year under report. About 8,000 people visited the Sidheswar *mela* which lasted for a fortnight. The Bhuban Hill *mela* which lasted for 3 days was attended by 5,000 people and the *mela* at Lala was attended by 1,000 people and it lasted for a week.

A section of an epidemic unit attended the Bhuban Hill *mela* while the Sidheswar *mela* was attended by the Sub-Assistant Surgeon, Katigora with a compounder. The *mela* at Lala was attended by the Local Board Doctor in charge of Lala Dispensary. Satisfactory sanitary arrangements were made in all the places and no case of any epidemic disease was reported from any of them. About 5,000 people attended the Panathirtha *mela* on the occasion of Baruni in the Sunamganj subdivision of the Sylhet district. A section of an epidemic unit attended the *mela*. The Subdivisional Medical Officer, Sunamganj, also supervised the sanitary arrangements of the *mela*.

There was a gathering of about 8,000 people in the town of Dhubri on the occasion of Brahmaputra bathing festival. Suitable sanitary arrangements were made by the Dhubri Municipal Board. A medical camp was stationed in the *mela* ground and the Health officer was deputed to look after the sanitary arrangements and to render medical aid. Temporary latrines were constructed and arrangements were made for the supply of piped water in the Town for the whole day. Another *mela* was held at Bogribari which was attended by 3,000 to 4,000 people. Necessary sanitary arrangements were made and there was no epidemic of any kind.

The annual *Astami Snan mela* was held at Silghat in the Nowgong district where about 12,000 people assembled. In addition to the Sub-Assistant Surgeon, Silghat, another Sub-Assistant Surgeon of the Public Health Department was deputed. The Assistant Surgeon of the Public Health Department also visited the *mela*.

In the Kamrup district, the Darranga fair was held, as usual. During the Hindu festival 'Ambubachi' a large gathering of pilgrims assembled at Kamakhya Hills. A Sub-Assistant Surgeon of the Epidemic Unit with Disinfectant Carriers was deputed to render medical aid as in previous year.

As in previous year there was a pilgrimage at Parasuram Kunda on the 14th and 15th January in the Sadiya Frontier Tract. The Sub-Assistant Surgeon, Denning dispensary was deputed to look to sanitation and to treat cases.

CHAPTER VI URBAN SANITATION (Including notified areas) MUNICIPAL WATER-SUPPLIES

41. There were 18 Municipal Boards and 10 Town Committees as in the previous year. Their total income was Rs.11,58,372 against Rs.13,03,409. A sum of Rs.5,60,930 or 48.42 of the total income was spent on sanitary works, original and recurring, as compared with Rs.5,79,735 or 44.47 per cent. in the preceding year. As usual, the Director and Assistant Directors of Public Health inspected the municipalities and Small Towns and offered advice on health matters. As pointed out in inspection notes, much still remains to be done in every direction in the matter of improving sanitary conditions in the towns of the Province.

Public Works Department incurred an expenditure of Rs.11,565-7-0 on the maintenance of water-supplies, drainage and town improvement as compared with Rs.7,079-10-0 in the preceding year.

CHAPTER VII

RURAL SANITATION

42. A sum of Rs.1,86,816 was spent by the Local Boards on public health measures during the year 1939 against Rs.1,77,479 in the preceding year.

The bulk of the population of Assam lives in rural areas, consequently the health and prosperity of the people of these areas is a matter of vital importance. Local Boards should pay special attention to the provision of adequate and safe water supplies for villages. Until this is done no material reduction in the incidence of water-borne diseases can be expected. The public health measures which are extensively carried out in rural areas are protection against cholera by inoculation, the use of bacteriophage in the treatment of cholera cases and protection against small-pox by vaccination. *Kala azar* treatment measures continue to be carried out on the lines similar to those employed hitherto. Tablets of quinine Reinforced Cinchona Febrifuge for the treatment of Malaria are sold in all villages post offices and through other accredited agents. Quinine and Cinchona Febrifuge are also supplied free to indigent persons in all districts. Treatment of Yaws, Leprosy, Malaria, Influenza, Minor Eye complaints, Dysentery and Diarrhoea is also undertaken by Public Health Department dispensaries in the rural areas. Adulteration of foodstuffs is reported to be increasing in the Province. This can be controlled by strict supervision, by regular inspection and submission of samples to the Public Analyst for analysis and the inflicting of adequate punishment in all cases where unwholesome food is sold for consumption and where adulteration of articles of food is reported by the Public Analyst.

It is hoped that Local Boards will take more active and deterrent action to prevent adulteration.

CHAPTER VIII

43. *Malaria*.—Malaria fever continues to be the most widespread disease in the Province. It is prevalent throughout the province and almost constantly in an epidemic form. Goalpara district is the most badly affected of all the districts. A total of 1,016,936 cases of malaria fever were treated in all hospitals and dispensaries in the plains districts, viz., 827,190 cases were treated in the dispensaries under the Medical Department and 189,746 cases were treated in the Public Health Department dispensaries, while 140,380 persons purchased quinine reinforced cinchona from post offices and other agents as during the year under review 7,009 parcels of quinine reinforced cinchona were sold in the plains districts. As there are large areas in every district where there are no facilities for medical aid and quinine reinforced cinchona is not readily available, the number of patients estimated above is certainly not a complete statement of the actual number of cases suffering from malaria. From the statistics of the preceding years, it may be estimated that roughly 10 per cent. of the population is treated for malaria. As undoubtedly large numbers in rural areas went untreated, and as Assam is one of the principal malarious provinces in India, it would be more accurate, if the number who suffered from malaria be estimated at 30 per cent. of the population. On this basis there would therefore be about $2\frac{1}{2}$ million persons in Assam suffering from malaria. Nearly $1\frac{1}{2}$ millions therefore remain untreated. Separate figures of mortality from malaria are not available. As noted in paragraph 29 "Fevers" were responsible for 103,892 deaths against 105,687 in the preceding year. A very large percentage of these deaths is attributable to malaria fever, although it is a poor index, owing to general unreliability of the registration of the cause of death, the deaths under the heading "Fevers" are generally used for the estimation of the mortality from malaria. In malarious provinces 25 per cent. of the deaths due to "Fevers" is taken as the index of the mortality from malaria. On this basis, the number of deaths from malaria in Assam would be about 26,000.

As in previous years, quinine reinforced cinchona febrifuge was used as a general preventive and curative agent against malaria and was sold to the public at two annas per tube containing ten tablets of four grains each. As in previous year the Government of Assam gave a grant of Rs.20,000 to the Assam Medical Research Society for the purpose of research and the conduct of anti-malaria work. The Society's activities are at present confined mainly to researches on malaria.

The work of the Society is summarised below from information supplied by the Research officer.—Dr. Rice retired from the service of the Society from the 6th of March 1939, and the current duties were carried out by the malariologist, until Dr. D. K. Viswanathan was appointed and took over charge of the post on the 13th of October 1939. The usual course of training of Sub-Assistant Surgeons in malaria work, and the class for the training of malaria Inspectors were not held owing to the vacancy in the post of Research officer. For the same reason, no new lines of research were undertaken. Field malaria surveys as a result of the detailed *Bhil* survey done last year. Dr. Rice submitted a very full report on the methods of control of malaria in the Tea Estates in the Doom Dooma area. This included proposals for the control of malaria in the Government lands within infective range. The scheme of control based on the above report is being considered by the Government and the Tea Interests.

The Experimental control projects, to determine the efficacy of cold weather and pre-monsoon control, were continued. In all the areas where the work was done, *A. minimus* remained the sole vector. In Gauhati it was found that malaria there was liable to epidemic exacerbations, and a new survey was begun to determine whether the improvements in the spleen rates were due to anti-larval measures carried out, or to natural variations and declines in an epidemic cycle. In Nowgong also the recorded spleen rates indicated that the area was liable to epidemic variations in malaria. The anti-malaria work in the town, however, was able to keep the town free from malaria which prevailed all round it. The Research Officer considers that Gauhati and Nowgong would be suitable areas in which the factors of malaria transmission during an epidemic

could be very profitably studied. In North Lakhimpur, what was before a highly endemic area can now be classified as a moderately endemic area after five years of work. Natural control by flushing was found to be the method that gave the best results. In Mangaldai, no improvement resulted until it was found that the loops of the dying rivers running past the town were breeding grounds throughout the year, measures based on this discovery produced an immediate fall in the spleen rates which appears to be progressive and what was a highly endemic area bids fair to become malaria foci. In the Jagadishpur group of villages, (Surma Valley villages) there has been a considerable improvement in the incidence of malaria, and arrangements are being made to assess the incidence of malaria in the villages in the neighbourhood which are not under control to confirm the inference that the improvement in the controlled group is due to the anti-malaria measures carried out. In the Dishpur group of villages (Brahmaputra Valley villages), all efforts to secure the co-operation of the villages in the anti-malaria work failed, and it is the opinion that it will not be possible to effect any material improvement in such an area except at a very prohibitive cost, there are at least 370 acres of paddy fields besides a very large area not so cultivated and a population of about 800 persons a cost that will be out of all proportion to the size of the village and its economic resources. It is proposed, therefore, to carry out measures against adult mosquitoes by spraying of Pyrocide XX in the houses of the village. In this connection, it seems to me to be an area, where a scheme of controlled irrigation and drainage, would ensure the co-operation of the villagers and I propose to take the matter up with the Research Officer and the officer in charge of Irrigation and Drainage.

Treatment Schemes.—The treatment scheme in Doom-Dooma is being reorganised to determine whether the recorded decreases achieved were the result of the intensive treatment over the several years the experiment has been in operation, or due to a real decline in the incidence of malaria. As anti-larval work is also going on in the area it might be difficult to separate the results due to treatment scheme and those due to the anti-larval work. This however may not be a real difficulty as anti-larval work in the area is not under unified control, as a result of which such work is largely ineffective. Treatment schemes in other areas have been examined jointly by the Research Officer and myself and we have decided that these schemes should be revised to provide throughout the malaria seasons, treatment of actual fever cases not merely cases of malaria infection detected by a single microscopic examination of the blood and to observe the results over a continuous period under the supervision of a trained Sub-Assistant Surgeon.

The Assam Medical Research Society in co-operation with the Public Health Department and the Provincial Advisory Malaria Committee continues to offer technical advice and supervision of schemes of anti-malaria work, where the surveys were carried out by its own staff. But the society is willing at all times and has often to advise in regard to other schemes. Such advice was given to five tea gardens and to the Assam-Bengal Railway in respect of its work at Lumding.

Entomological examinations carried out during the year numbered 58,943 larvæ and 10,224 adults. Dissections of 2,229 anophelines were done, and two infected *A. culicifacies* were found one in the infective stage.

During the year 10,339 specimens of blood and the same number of spleens examined malaria parasites were found in 12.6 per cent. of the blood samples, and 17.1 per cent. of the spleens were found to be enlarged. In a special survey by the Public Health Department of an area in the Surma Valley which was reported to be badly infected, 900 blood specimens were examined, of which 27.3 per cent. were found infected.

SALE OF QUININE

44. The table below shows the quantities of quinine sold, district by district, during the year 1939 :—

Districts	Treatment parcels sold in—			Difference	
	1938		1939	Increase	Decrease
	1	2	3		
Cachar	...	346	296	...	50
Sylhet	...	1,685	1,620	...	65
Goalpara	...	699	719	20	...
Kamrup	...	1,018	1,286	268	...
Darrang	...	596	681	85	...
Nowgong	...	653	966	313	...
Sibsagar	...	776	1,159	383	...
Lakhimpur	...	292	282	...	10
Khasi and Jaintia Hills	...	609	605	...	4
Naga Hills	...	67	82	15	...
Lushai Hills	...	1,048	916	...	132
Garo Hills	...	62	75	13	...
Sadiya Frontier Tract	...	72	72	...	...
Manipur	...	8	3	...	5
Total	...	7,931	8,762	831	...

During the year under report 8,762 parcels of quinine Reinforced Cinchona Febrifuge were sold against 7,931 in the previous year. The sale increased in all districts except Cachar, Sylhet, Lakhimpur, Khasi and Jaintia Hills, Lushai Hills and Manipur State. The drug was sold at two annas per treatment of 10 tablets each.

The following quantities of quinine and cinchona Febrifuge were obtained and allotted to Civil Surgeons for free distribution to indigent malaria patients in the badly affected areas of the undernoted districts :—

			Quinine Sulph.	Cinchona Febrifuge	Quinine Reinforced Cinchona Febrifuge
Cachar	...	...	16 lbs.	24 lbs.	...
Sylhet	...	...	136 „	204 „	4 lbs.
Goalpara	...	...	30 „	45 „	...
Kamrup	...	...	40 „	60 „	...
Darrang	...	...	12 „	18 „	...
Nowgong	...	...	38 „	57 „	...
Sibsagar	...	...	32 „	48 „	...
Lakhimpur	...	...	14 „	21 „	...
Khasi and Jaintia Hills	...	...	1 „	1 „	...
 Total	...	...	<hr/>319 „	<hr/> 478 „	<hr/> 4 „

A statement showing separately quantities in lbs. of (a) quinine and (b) secondary alkaloids of cinchona distributed free or at reduced price by the Public Health and Medical Departments and other sources during 1939 is appended :—

Statement showing separately quantities in lbs. of (a) quinine and (b) secondary alkaloids of cinchona distributed free or at reduced price by the Public Health and Medical Departments and other sources during 1939

CHAPTER IX

MATERNITY AND CHILDWELFARE

45. During the year under review a maternity and childwelfare centre under the Red Cross Society was opened at Dibrugarh.

A total of 36,299 infants died during 1939 giving an infant mortality rate of 149.73. This large number of deaths can be reduced if more maternity and childwelfare centres are opened throughout the Province and a large number of properly trained midwives is made available. The infant mortality rate recorded in rural and urban areas was 150.78 and 112.43 respectively. The number of deaths from child birth is collected through Chaukidars and Gaonburas. No special enquiries have been made to verify and check the vital statistics beyond the usual verification. The death-rate of children under 5 years was 22.83. Maternity and childwelfare organisation are in the hands of the Red Cross Society. There is no Health Visitor Training School in the province and no provision for the inspection of welfare centres exists. No other attempt except propaganda with the aid of magic lantern demonstrations was made to reach rural areas in connection with maternity and childwelfare work. Figures are not available regarding proportion of births delivered in hospitals, by private doctors, by trained midwives, by untrained midwives and without attendants. No portion of the Public Health Department's budget was allocated to maternity and childwelfare. There was no specialised work for women and children in industrial areas. The Nari Sikshasram at Silchar provides a course of training for *dhais* lasting for a year to class of 15 students. The course is in accordance with the syllabus of the Victoria Memorial Scholarship Fund. Facilities for the training of *dhais* exist in the towns of Sylhet, Karimganj, Goalpara, Dhubri, Nowgong and Tezpur. Public examinations are held at Dibrugarh, Sylhet and Karimganj. Midwives are not registered in the province and there is no provision for inspection of midwives. There is no bye-law in any Municipality for controlling the practice of midwives. The position in respect of midwives is improving in the Province. Salaried midwives are employed by Municipalities and Local Boards.

There is no recognised institution for the training of midwives, assistant midwives and nurse *dhais* in the province. The services of doctors attached to hospitals and maternity homes are available for domiciliary midwifery. There is no provision for the supervision of salaried midwives, assistant midwives and nurse *dhais* either in domiciliary or in private practice. The Assam Births and Deaths Registration Act, 1935, controls the registration of births and deaths in the province. No provision exists for the control of the training, registration and supervision of nurses, health visitors, assistant midwives, nurse *dhais* and trained *dhais*. There is no prohibition of practice by unregistered midwives and *dhais* and there is no regulation regarding qualifications and appointment of staff in maternity and childwelfare work and the inspection of maternity hospitals and homes. The Indian Factories Act controls the conditions of women and children in industry. There is no Children's Act in the province. The chief hindrance to the advancement of this work are ignorance, prejudice and partly poverty on the part of the bulk of the population.

TABLE SHOWING MATERNITY AND CHILDWELFARE CENTRES, HEALTH VISITORS AND TRAINED MIDWIVES IN RURAL AND URBAN AREAS IN ASSAM DURING 1939

District	Maternity and Childwelfare Centres maintained by—								Staff—			
	Government		Local and Municipal bodies		Other agencies		Trained visitors		Trained Midwives		Trained Dhais	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
1	2	3	4	5	6	7	8	9	10	11	12	13
Cachar	3	...	3	3
Sylhet	1	...	...	...	5	3	...	2
Khasi and Jaintia Hills.	1	...	1	...	...	...	...	...
Naga Hills	1	...	...	...	...	...	...	...	1	...	...	...
Lushai Hills	2	...	...	...	1	...	...	...	...	1	4	...
Goalpara	2	1	...	...
Kamrup	2	...	...	...
Darrang	2	...	...	...	...	...	2	1	...	...
Nowgong	1	...	1	...	1	...	1	...	...	...
Sibsagar	2	...	...	...
Lakhimpur	1	...	1	...	1	...	1	...	...	...
Garo Hills	1	...	1	...	1	...	...	...
Manipur
Sadiya Frontier Tract	3	...	...	3
Balipara Frontier Tract	1	...	...	...

TABLE SHOWING PUBLIC HEALTH SERVICES IN RURAL AND URBAN AREAS IN ASSAM DURING 1939

Districts	Rural areas										Urban areas										
	Medical Officers of Health					Epidemic staff					Sanitary Inspectors					Vaccinators					
	Holding D. P. H.	Licentiates (L. P. H.)	Part time	Whole time	Female	Part time	Whole time	Female	Part time	Whole time	Male	Part time	Whole time	Male	Part time	Whole time	Female	Part time	Whole time	Female	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
Cachar	2 S. A. S.s	..	30	..	..	..	..	..	..	1	1	..	I. V.-1	3	..	
Sylhet	1	..	..	4 D. C.s	..	4 D. C.s	..	..	..	..	..	..	S. I. V.-2	..	S. I. V.-1	..	S. I. V.-1	..	
Khasi and Jaintia Hills	7 S. A. S.s	..	113	1	..	..	..	..	..	S. I. V.-1	9	..	S. I. V.-1	..	S. I. V.-1	..
Naga Hills	14 D. C.s	..	..	..	..	..	..	..	..	S. I. V.-1	..	..	S. I. V.-1	..	..	..
Lushai Hills	S. I. V.-1	..	..	S. I. V.-1	..	..	..
Goalpara	I. V.-1	5	..	S. I. V.-4	..	..	..
Kamrup	S. I. V.-1	4	..	S. I. V.-3	..	..	..
Darrang	I. V.-1	3	..	S. I. V.-2	..	..	..
Nowrang	I. V.-1	2	..	S. I. V.-1	..	..	..
Sibsagar	1	..	..	..	..	..	..	..	..	..	..	S. I. V.-1	4	..	S. I. V.-1	..	..	..
Lakhimpur	I. V.-1	4	..	S. I. V.-3	..	..	..
Garo Hills	S. I. V.-1	3	..	S. I. V.-2	..	..	..
Manipur	S. I. V.-1	1	..	S. I. V.-2	..	..	..
Sadiya Frontier Tract
Balipara Frontier Tract

CHAPTER X

SCHOOL HYGIENE AND MEDICAL INSPECTION OF SCHOOL CHILDREN

46. Assistant Directors of Public Health, Surma Valley and Hill Division and Assam Valley Division inspected schools and delivered lectures on health and hygiene to the students and the staff.

Periodical medical inspections of selected institutions were carried out and suggestions made for the improvement of the health of the boys and general sanitation of the schools and hostels attached thereto by the medical officers in charge.

CHAPTER XI

HEALTH PROPAGANDA

47. Assistant Surgeons of the Public Health Department in course of their inspection of dispensaries gave demonstrations and lectures illustrated by Magic lantern slides. The subjects dealt with included common prevalent diseases such as cholera small-pox, *kala azar*, malaria, tuberculosis, leprosy, as well as general sanitation and food. The expenditure was met partly from the Public Health Budget and partly from the King George Thanksgiving (Anti-Tuberculosis) Fund.

KING GEORGE THANKSGIVING (ANTI-TUBERCULOSIS) FUND

48. The tuberculosis clinic opened at Shillong in 1937 continued its work as before during the year under report. Arrangements for systematic home visits and tracing of contacts were carried out during the year. Dr. Ganguly, the Tuberculosis Home Visitor of the Shillong Clinic, attended health exhibitions in different parts of the province and organised demonstrations and propaganda work. Exhibitions, pamphlets, leaflets, charts and models were used for this purpose. The exhibit of the Shillong Health Exhibition of 1938 was found to be of very great value in this work. In many places it was reported to be the backbone of the local health exhibition. Partial tuberculosis surveys were carried out at Shillong. During the year 1939, 71 new and 61 old cases came under treatment of whom 28 died. A total of 342 specimens was examined of which 55 were found positive. Two Medical Graduates who were trained at Calcutta at the expense of the Fund gave their services to the Clinic throughout the year as Honorary Visiting Tuberculosis Physicians.

The King George Thanksgiving (anti-Tuberculosis) Fund was wound up and its activities taken over by the Tuberculosis Association of Assam, which was formed on 15th November 1939. The Assam Provincial Committee of the King Emperor's Tuberculosis Fund, also ceased its operations of collecting funds. It was reconstituted as the Tuberculosis Association of Assam. Its object is to organise and carry out, with the funds collected, tuberculosis work in the Province. In bringing about this very much wanted organisation, mention must be paid to the very valuable work done by Lady Reid. It was due to Lady Reid's enthusiasm, and unflagging energy that the appeal by the Marchioness of Linlithgow met with such good results, at a time, when there were other urgent demands on the philanthropy of the people. The collection in the Province amounted to the sum of Rs.1,12,990-15-4 which must be considered to be a remarkable effort for a province suffering from so many disabilities as Assam. The Tuberculosis Association has begun the work of organising co-ordinated scheme for tuberculosis work in the province.

The Nowgong clinic continued its work as in the previous year but no progress could be made for want of funds.

A total of 478 sputum slides for tuberculosis were examined and 129 found positive.

CHAPTER XII

RURAL AND URBAN HOUSING CONDITIONS

49. In urban areas housing conditions continued not to be satisfactory. The houses are generally ill-designed and there is a great deal of overcrowding. The standard of housing both in towns and villages is far below what would be necessary to make for even moderately healthy living.

In rural areas the conditions become worse still during the rainy season, particularly in low-lying areas owing to floods. Poverty, ignorance and apathy stand in the way of improvement. There were no building societies or co-operative schemes for the improvement of rural and urban housing during the year under review.

In the Industrial centres, housing conditions are reported to be improving. The tea gardens have initiated measures, for the improvement of housing conditions on their estates, and a series of standardised specifications and plans for houses for their labour is in course of preparation. Municipal authorities could likewise in their areas prepare town development schemes and plans for suitable housing of the populations in their congested areas.

In rural areas housing conditions remain the same. It is hoped that in the course of the working of a Health Unit Scheme plans for which are in preparation, the housing conditions in rural areas will be studied in detail and that the practical suggestions that will be made by the Health Unit, will result in tangible improvements in village housing and sanitation.

CHAPTER XIII

BUDGET GRANTS FOR THE DEPARTMENT

50. A scheme for the development of the Public Health administration in the province was submitted to Government during the year under review.

This scheme consisted of proposals for the improvement and development of the work of the Public Health Department in all its branches. It was designed to provide for a public health organisation, which would be a permanent and increasingly useful institution in the villages and rural areas, which at present are more or less left unprovided. The fundamentals on which this scheme is based are, the necessity for the employment of a qualified and trained staff in all grades of the department, the necessity to distribute the staff in such a manner that all parts of the province will benefit, the necessity of placing real responsibility on divisional, district, and subdivisional staffs, so that the higher supervising officers will have the opportunity to attend to the more important aspects of the work of prevention of disease. It was therefore proposed to set up a District Public Health Department in every district, with a properly qualified District Health Officer in control and with real responsibility, relieving the Civil Surgeons of their public health functions, with a Health Officer of the second class in every subdivision and a Health Inspector in every Thana. For the further improvement of the department it was proposed to reorganise the teaching of Hygiene and the institution of a Health Inspectors' training class in the Berry-White Medical School, and later, when this stage of reorganisation of the Department has been initiated, to take up that most important task, the improving of vaccination against small-pox and the stamping out of this disease. When such a reorganisation is undertaken the functions of the Assistant Directors of Public Health will be enlarged so that the Assistant Directors of Public Health will be entirely responsible for the Public Health in their Divisions, and a much needed decentralisation of much routine work will be effected. The Director of Public Health will thus be relieved so as to be able to give his undivided attention to more important matters of Public Health. The scheme is now under consideration of the Government.

The budget allotments for the years 1938-39 and 1939-40 amounted to Rs.9,49,450 and Rs.8,66,100 respectively while those for heads administered directly by the Director of Public Health amounted to Rs.6,89,502 and Rs.6,07,545 respectively. The receipts of the Department for these years were Rs.1,61,349 and Rs.2,32,810-9-6 respectively.

The strength of the Public Health Department during the year was as follows :—

1. Director of Public Health	...	...	...	...	1
2. Assistant Directors of Public Health	...	...	...	...	2
3. Assistant Surgeons	...	...	...	...	7
4. Urban Health Officers	...	...	...	...	9
5. Sub-Assistant Surgeons—					
General duty	...	89			
Epidemic Unit duty	...	21			
Malaria duty	...	9			
In charge, Vaccine Depôt	...	1			
Gauhati Emigration Hospital		1			
			121		

6. Vaccination inspecting staff—

Inspector of Vaccination	...	9
Sub-Inspectors of Vaccination		30
		39

7. Clerks—

Office of Director of Public Health	14
,, A. Ds of Public Health	2
,, Civil Surgeons	10
,, Pasteur Institute	1
	—
	27

8. Bio-Chemist	1
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9. Literate packers—

in Public Health Laboratory	1
in Vaccine Depôt ...	1
	—
	2

10. Compounders (temporary) ... 4

11. Loaders—

in Vaccine Depôt	2
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12. Disinfectant Carriers—

Permanent	30
Temporary	12
			42

13. Sample Taker...	1
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14. Laboratory Assistants and Media Makers—

Public Health Laboratory	...	3
Vaccine Section Pasteur Institute		5

Bacteriophage Section Pasteur Institute.	8
	—
	16

15. Vaccinators appointed by Government	43
in Hill Districts.	

16. Vaccinators appointed and paid by Local Boards.	397
--	-----

Ditto by Municipalities	26
-------------------------	----

Ditto by Development Boards	2
-----------------------------	---

17. Magic Lantern Operators temporary	6
---------------------------------------	---

18. Servants—

Duftry	1
--------	---

Orderlies	3
-----------	---

Chaprasis	125
	—

	129
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The Shillong Municipal Board employs a fully qualified Health Officer whose salary is met in part by a contribution from Government.

CHAPTER XIV

VACCINATION

This chapter and all statistical tables connected with it refer to the period from April 1st, 1939 to March 31st, 1940. The question of writing this report for the calendar year is being examined and it is hoped that arrangements will be completed to make this possible when the next report is presented.

INTRODUCTORY

51. Vaccination was performed as usual, throughout the province, among a total population of (estimated) 10,053,459.

VACCINATION AGENCIES

52. Vaccination among the general population was performed by 469 vaccinators, *viz.*, 389 Local Board, 28 Municipal Board, 2 Development Board, 38 Government vaccinators and 12 vaccinators in Manipur State. The labour force of the Tea Estates was vaccinated by the Garden Medical Officers. Railway employees were vaccinated by the Railway Medical Officers and in Jails vaccination was performed by Sub-Assistant Surgeons in Medical charge.

When their services were not required for cholera or other epidemic duty 42 Disinfectant Carriers of Epidemic Units were also employed, as in the previous years, as vaccinators. The average number of persons vaccinated by each vaccinator was 2,017 during the year under report as compared with 1,793 in the preceding year. There was an increase in the average number of persons vaccinated by each vaccinator by 224.

TOTAL NUMBER OF OPERATIONS

53. The total number of vaccination operations performed in Assam during the year 1939-40 by all agencies was 945,876 of which 471,571 were primary and 474,305 revaccinations as compared with 855,034 of which 463,800 were primary and 391,234 revaccinations in the preceding year. There was an increase of 7,771 in primary vaccinations and 83,071 in revaccinations in comparison with the previous year. Variations in the district returns are criticised in paragraph 60.

The total number of operations performed by different agencies during the year under report and in the previous year is shown below:—

		1939-40	1938-39
Number of operations by—			
Local and Municipal Board and Government Vaccinators		859,898	784,750
Ditto ditto by Staffs of dispensaries	...	11,779	7,251
Ditto ditto by Tea Garden agencies	...	64,824	55,229
Ditto ditto by Jail, Asylum, Police and Emigration Hospital agencies.		5,584	3,855
Ditto ditto by Railway agencies	...	3,791	3,949
Ditto ditto by Private Medical Practitioners	...	...	...
		945,876	855,034

There was an increase of 90,842 operations in the year under report as compared with the previous year.

VACCINATIONS AMONG THE GENERAL POPULATION

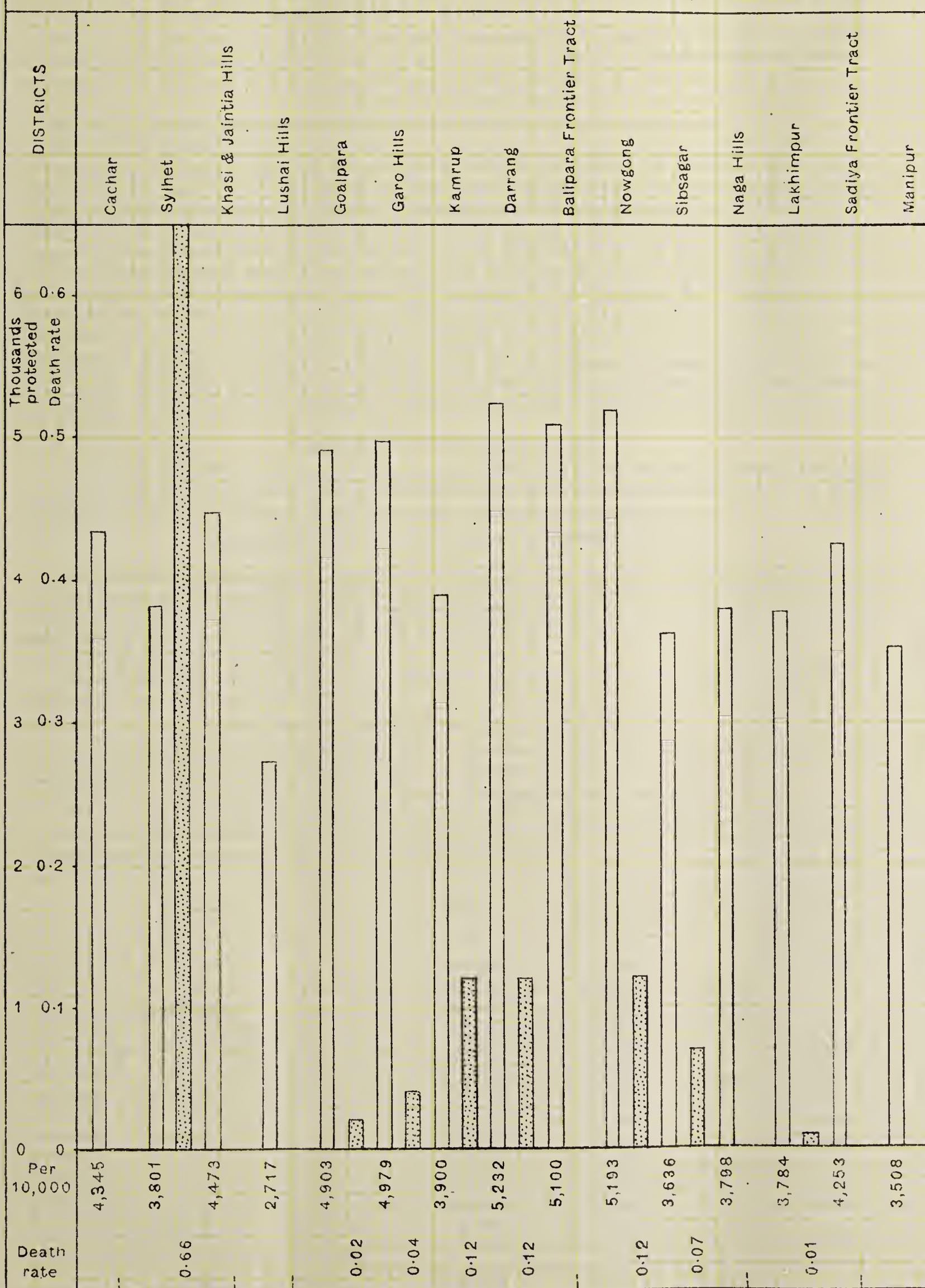
54. The number of operations performed among the general population by Local Board Municipal and Government Vaccinators during the year under report shows an increase of 75,148 vaccination operations as compared with the figures of the preceding year. The present practice of vaccination during the 6 months only in the year is not satisfactory for many reasons. Steps are being taken to organise the carrying on of vaccination throughout the year.

DEATHS FROM SMALL-POX

55. A total of 2,334 deaths against 1,736 in the previous year from small-pox, occurred in the province including the Hill districts during the year 1939-40 as shown below:—

Cachar	...	...	...	...	...	...	...	Nil
Sylhet	...	...	...	...	...	...	...	1,962
Khasi and Jaintia Hills	...	...	...	...	...	...	...	Nil
Naga Hills	...	...	...	...	...	...	...	Nil
Lushai Hills	...	...	...	...	...	...	...	Nil
Goalpara	...	...	...	...	...	...	...	15
Kamrup	...	...	...	...	...	...	...	127
Darrang	...	...	...	...	...	...	...	74
Nowgong	...	...	...	...	...	...	...	69
Sibsagar	...	...	...	...	...	...	...	68
Lakhimpur	...	...	...	...	...	...	...	11
Garo Hills	...	...	...	...	...	...	...	8
Manipur	...	...	...	...	...	...	...	Nil
Sadiya Frontier Tract	...	...	...	...	...	...	...	Nil
Balipara Frontier Tract	...	...	...	...	...	...	...	Nil
						Total	...	2,334

CHART VI. Persons protected by vaccination per 10,000 in the period 1933-34 to 1939-40
and the death rate of SMALL POX in 1939-40 in Assam by Districts



As in the previous year the highest mortality from small-pox was reported from the Sylhet district. All the subdivisions of the district more or less were affected with small-pox during the year under report. North Sylhet subdivision was the worst sufferer. Small-pox was prevalent throughout the year both in Municipal and rural areas of the subdivision which necessitated the entertainment of non-season vaccinators. The Sylhet Municipality was badly affected with small-pox. The services of a Sub-Assistant Surgeon, Sub-Inspector of Vaccination and a Disinfectant Carrier were therefore lent to the Municipality for a short period to help the Urban Health Officer to control the epidemic.

The ratio of deaths from small-pox during the year 1939-40 was 0.23 per mille of population as compared with 0.19 in the preceding year. The death-rate reported from small-pox was highest in the district of Sylhet 0.66 against 0.48 in the preceding year. The death-rate reported from Kamrup was 0.12 against 0.08, Darrang was 0.12 against 0.04 and Nowgong was 0.12 against 0.54 in comparison with the preceding year.

The attached chart illustrates the death-rates from small-pox in each district side by side with the proportion protected against the disease by vaccination during the seven years from 1933-34 to 1939-40.

SPECIAL REGULATIONS

56. Vaccination in rural areas in Assam is not compulsory, but every encouragement is given to the people to get themselves vaccinated.

Some opposition to vaccination is met with in certain localities. To overcome this hostile attitude, regulations under the Epidemic Diseases Act, 1897 (III of 1897), are resorted to and these areas are declared to be small-pox infected areas under the Epidemic Diseases Act. During the year under review the villages under Kulaura and Maulvi Bazar Police Stations and some of the villages of the Kamalganj Police Station of the Maulvi Bazar subdivision, Patiala under the Ratabari Police Station of the Karimganj subdivision, Bejgaon under the Balaganj Police Station, Nowagaon under the Biswanath Police Station and some villages under the Fenchuganj Police Station of the North Sylhet subdivision of the Sylhet district, Pashimbonbhag, Uperborbhag, Madiyabaska, Dharmapur, Defeli, Pubbaska, Pubborigog, Panduri, Sonapur, Demoria, Beltola, Ramcharani, Pubchamaria and Hajo mouzas of the Gauhati subdivision, Bogribari, Gobordhan, Chenga and Bhabanipur mauzas in the Barpeta subdivision of the Kamrup district, Gharbondi and Miridalang in Mankata mauza and the whole of Lahoal mauza of the Dibrugarh subdivision of the Lakhimpur district and the whole of Goalpara district were declared as small-pox infected areas during the year under report.

DISPENSARY VACCINATION

57. A total of 11,779 vaccination operations was performed by the dispensary staffs during the year under report of which 2,694 were primary and 9,085 re-vaccinations as compared with 7,251 operations in the year 1938-39 with 1,655 primary and 5,596 re-vaccinations.

PERCENTAGE OF SUCCESSFUL OPERATIONS

58. The percentage of successful operations performed by all establishments combined was 95.41 for primary vaccination and 58.48 for re-vaccination as compared with 95.39 and 59.57 respectively in the year 1938-39. The percentage of successful operations in primary vaccinations and re-vaccinations in case of dispensary staffs was 94.27 and 50.64 respectively as against 90.74 and 45.74 respectively in the previous year.

During the year under report no complaint as regards the lack of potency of the vaccine-lymph was received from any district.

DIFFERENT METHODS OF VACCINATION

59. All vaccinations were performed, as in previous years, with glycerinated calf lymph manufactured in the Provincial Vaccine Dépôt at Shillong.

VACCINATION WORK IN DIFFERENT DISTRICTS

60. The following table shows the increase and decrease in vaccination operations performed in individual districts as compared with the preceding year:—

Districts	1939-40	1938-39	Increase	Decrease
Cachar ...	47,971	53,455	...	5,484
Sylhet ...	360,644	282,195	78,449	...
Khasi and Jaintia Hills ...	49,051	27,888	21,163	...
Naga Hills ...	18,716	17,130	1,586	...
Lushai Hills ...	9,919	11,607	...	1,688
Goalpara ...	78,844	85,219	...	6,375
Kamrup ...	89,123	74,139	14,984	...
Darrang ...	70,149	78,343	...	8,194
Nowgong ...	51,227	59,717	...	8,490
Sibsagar ...	62,780	64,927	...	2,147
Lakhimpur ...	57,026	48,592	8,434	...
Garo Hills ...	17,681	19,030	...	1,349
Manipur State ...	25,946	27,200	...	1,254
Sadiya Frontier Tract ...	6,287	4,747	1,540	...
Balipara Frontier Tract ...	512	845	...	333
Total ...	945,876	855,034	90,842	...

The increase in the Sylhet district is the highest (78,449). The fall of 8,490 vaccination operations in the Nowgong district is due to the fact that there was no wide spread of small-pox epidemic in this district during the year under report. In the Darrang district the decrease of 8,194 is due to the fact that the population of the Tezpur and Mangaldai subdivisions was less than that of the previous year and the Tea Garden Medical Officers' returns furnished a small number of vaccinations during the year under report. No vaccination operations were performed by the dispensary staff in the districts of Cachar, Kamrup, Nowgong and Lakhimpur.

COMPOSITION AND STRENGTH OF THE INSPECTING STAFF

61. The subordinate Inspecting Staff was the same as in the previous years and consisted of 9 Inspectors and 30 Sub-Inspectors of Vaccination. As in the previous years one Inspector and one Sub-Inspector of Vaccination were employed by the Manipur State during the year under report.

VACCINATION IN COMPULSORY AREAS

62. In towns, where the Vaccination Act is compulsory 7,455 infants were born, of these 787 died, leaving 6,668 infants available for vaccination during the year 1939-40. Out of these 3,747 or 56.19 per cent. were successfully vaccinated as compared with 46.51 per cent. of the previous year. In Shillong town 96.46 per cent. of the available infants were vaccinated. In other towns the percentage of vaccinated children was, Mangaldai 93.75, Palashbari 91.55, Sylhet 82.85, Nowgong 77.07, Maulvi Bazar 67.03, Gauhati 65.25, Karimganj 62.34, Silchar 57.10, Tezpur 53.02, Gauripur 52.04, Goalpara 48.47, Nazira 45.71, Doom Dooma 45.45, Golaghat 44.74, Dhubri 44.72, Jorhat 42.80, Dibrugarh 34.73 Hailakandi 34.09, Sunamganj 32.12, Srimangal 29.85, Barpeta 29.49, North Lakhimpur 26.67, Sibsagar 23.48, Habiganj 18.40 and Tinsukia 16.81.

In compulsory rural areas under village authorities in Sylhet, Nowgong and Sibsagar districts 3,829, 1,008 and 1,625 operations were performed during the year under report as compared with 4,988, 1,375 and 1,539 respectively in the previous year.

VACCINE DEPOT, SHILLONG

63. The amount of vaccine lymph manufactured in the Vaccine Depôt, Shillong, during the year under report was 1,110,290 tubes against 994,679 tubes in the previous year. A total of 1,096,208 tubes was issued during the year under report against 1,026,373 tubes in the year 1938-39. Each tube contains sufficient vaccine lymph to vaccinate one person. During the year under report 455 cow calves, 13 buffalo calves and 14 rabbits were hired and inoculated, out of these, operation was done on 375 calves for collection of vesicles out of which 33 failed and 14 inoculated calves remained at the close of the year. A total of 75 calves was rejected, 33 on account of failure of operations, 2 from Jaundice and 40 on account of other illness as compared with 55 on account of failure of operations, 64 on account of illness in the preceding year. During the year under report no calf was rejected on account of unsatisfactory vesicles against one in the year 1938-39. Thirty-eight calves were used for the potency test of the lymph manufactured during the year under report, against sixty-four in the preceding year. All the batches of lymph tested gave uniformly continuous and 100 per cent. success. The staff of the depot have undertaken to do vaccination and re-vaccination twice a week at the Vaccine Depôt, Shillong, so that definite data regarding these may be obtained here.

During the year under report the average number of tubes prepared per calf was 3,385 as compared with 2,564 in the year 1938-39. The average yield per calf was 36.41 grammes during the year 1939-40 against 35.46 grammes in the preceding year. The total cost of working of the Vaccine Depôt, Shillong, was Rs.15,056 as compared with Rs.15,180 in the preceding year. Rupees 5,361 was on account of establishment, Rs.2,444 on account of hire of calves, Rs.163 on account of feed of calves, Rs. 3,827 on account of purchase of capillary tubes and instruments and Rs.3,261 on account of miscellaneous expenditure.

As usual lymph was supplied free to Civil Surgeons, Inspectors and Sub-Inspectors of Vaccination, Local and Municipal Boards and Sadiya and Balipara Frontier Tracts. Military Departments, Tea Gardens, Railways, Mission Hospitals, Manipur State and private individuals were supplied, as usual, on payment at the rate of one anna per tube.

Two Sub-Inspectors of Vaccination were trained at the Vaccine Depôt, Shillong, during the year under report, in the technique of vaccination.

The subordinate charge of the Vaccine Depôt was held by Dr. Sudhiranjan Bhattacharjee throughout the year.

COST OF THE DEPARTMENT

64. The total expenditure including the charges of the Vaccine Depôt, Shillong, on vaccination in Assam, during the year under report was Rs.1,06,961-9-3 as compared with Rs.1,06,401-14-10 in the previous year. The average cost of each successful vaccination during the year 1939-40 was two annas and ten pies only as compared with three annas and one pie only in the previous year.

GENERAL

65. Primary vaccinations and re-vaccinations performed by the Dispensary Staff numbered 2,694 and 9,085 respectively, by Tea Garden Medical Officers 31,910 and 32,914 respectively, by Medical Officers in charge of Jail Hospitals, Mental Hospitals, Police Hospitals and Infectious Diseases Hospitals 76 and 5,508 respectively, and by the Railway Medical Officers 512 and 3,279 respectively. The percentage of successful vaccinations and re-vaccinations were 94.27 and 50.64, 94.85 and 78.25, 84.72 and 62.50 and 98.59 and 37.04 respectively. As in the previous years no vaccination operation was performed by Private Medical Practitioners during the year under report.

CHAPTER XV

OTHER PUBLIC HEALTH SERVICES

66. *Industrial hygiene.*—The principal industry in the province is the cultivation and manufacture of tea. Sanitary conditions on tea estates, on the whole, are satisfactory. Special regulations, under the Emigration Labour Act, 1932, exist in regard to the supervision of sanitary conditions in tea estates. The Indian Factories Act controls sanitation in factories and also offensive trades.

The Assistant Directors of Public Health are additional Inspectors of Factories within their respective jurisdiction to see that the provisions of sections 13 to 21 of the Act are properly observed in the factories. The Assistant Director of Public Health, Surma Valley and Hill Division inspected 38 factories and the Assistant Director of Public Health, Assam Valley Division, 10 during the year under report.

67. *Mines.*—During the year 1939, the Civil Surgeon, Naga Hills, inspected the sanitary conditions of Borjan Colliery and the Assistant Director of Public Health, Assam Valley Division, inspected Ledo, Buragoloi and Numdang coal mines. The Civil Surgeon, Lakhimpur, who is also *ex-officio* Inspector of Mines did not inspect any mine during the year under review. There is no mine under the jurisdiction of the Assistant Director of Public Health, Surma Valley and Hill Division.

68. *Public Analyst (food adulteration).*—In 1939, a total of 1,407 samples was examined in the Public Health Laboratory against 1,362 in the previous year, as shown in the table below:—

I. Table—General Public Health Analysis

			1939	1938
Water samples :—				
(a) Chemical	...	...	229	232
(b) Bacteriological	...	...	359	395
Vaccine lymph	...	...	158	174
Miscellaneous examinations	...	...	14	
			746	815
			—	—

II. Table—Food Analysis

		1939		1938	
		Number examined	Number found adulterated	Number examined	Number found adulterated
Milk	...	175	69	96	69
Ghee	...	231	146	222	160
Mustard oil	...	199	98	165	69
Tea	...	18	2	16	4
Rice	...	5	...	5	2
Ahar Dal	...	2	...	...	...
Gur	...	1	...	...	...
Sugar, etc....	...	2	...	4	...
Moida and Atta	...	21	2	33	1
Butter	...	4	4	2	2
Others	...	3	1	...	...
Miscellaneous oils	...	...	...	4	2
		Total	661	322	547
				309	

As usual bacteriological and chemical examinations of filtered waters of all water-works and of jail water supplies were carried out. Many samples were received from wells, trial borings and tube wells of the local board areas which were under construction from the central rural uplift fund. The Laboratory also functioned as the Provincial Depot for the supply and despatch of Urea-stibamine and spare parts of syringes to Public Health Dispensaries.

An enquiry into the detection of adulteration of foodstuffs was conducted during the whole year in the Public Health Laboratory and this was financed by the Indian Research Fund Association.

During the year investigation on the adulteration of milk was undertaken and valuable observations were made regarding the constituents of milk of cow and also of buffalo of known breed. Estimation of lactose for which a rap'd method has been worked out in this Laboratory shows that lactose content of cow milk varies from 3.9 per cent. to 5.23 per cent. whereas that of buffalo milk varies from 4.18 to 5.53 per cent. It is expected that estimation of lactose will help the detection of adulterated buffalo milk passed as cow milk.

Statement of the working of the Assam Pure Food Act in the Municipalities during the year 1939

30

Name of Municipal Board	Number of samples purchased	Number of samples sent for analysis	Number of samples found adulterated	Number of prosecutions instituted	Number of convictions secured for subsequent offences	Amount of fine or imprisonment for subsequent offence (average)	Some amount for each offence	Total amount of fine realised during 1939	Remarks		
										1	2
Tezpur Municipal Board	18	18	6	4	...	75 0 0	...	75 0 0	Adulteration of butter, <i>ghee</i> , oil, mustard and milk.	Rs. a. p.	Rs. a. p.
Nowgong Municipal Board	44	42	22	18	...	290 0 0	...	290 0 0	Adulteration of <i>ghee</i> , mustard oil, wheat-flour and tea.	Rs. a. p.	Rs. a. p.
Silchar Municipal Board	52	52	20	14	11	685 0 0	150 0 0	685 0 0	...	...	...
Gauripur Small Town ...	1	1	...	...	...	...	...	...	Adulteration of milk, <i>ghee</i> , oil, mustard, tea and other foodstuff.	Rs. a. p.	Rs. a. p.
									Thirty-seven articles of foodstuffs were seized under section 16 and 34 were destroyed, one case was taken before the Magistrate and destroyed under section 17 and 2 samples were in the custody of the Police, 387 samples of milk were examined locally of which 8 were found adulterated. These were destroyed under section 16.	760 0 0	760 0 0

Dibrugarh Board.	Municipal	55	25	10	...	232 0 0	...	Adulteration of milk, ghee, mustard oil and tea.	232 0 0
Tinsukia Municipal Board Doom Town Committee.	Municipal	42	42	19	11	167 0 0	...	Ditto ditto ...	167 0 0
North Lakhimpur Town Committee.	Municipal	4	4	3	3	38 0 0	...	Adulteration of milk and ghee.	38 0 0
Sunamganj Board.	Municipal	...	...	...	...	...	...	...	...
Srimangal Town Committee.	Municipal	...	...	...	...	...	...	...	...
Sylhet Municipal Board...	Municipal	24	24	18	15	735 0 0	...	Adulteration of ghee and mustard oil.	735 0 0
Karimganj Board.	Municipal	31	31	1	3	90 0 0	...	Adulteration of mustard oil and butter.	90 0 0
Dhubri Municipal Board	Municipal	24	24	6	8	85 0 0	...	Adulteration of milk, ghee butter and mustard oil.	85 0 0
Jorhat Municipal Board...	Municipal	23	23	12	12	124 0 0	...	Out of 24 samples sent for analysis 6 were found to be adulterated, of these one sample was sent at party's expense as the party wished to have these analysed* before they sell the article. In other 5 cases conviction was secured. In 3 cases milk was locally examined and found to be adulterated. They were produced before the Magistrate and they were fined.	124 0 0
Golaghat Municipal Board	Municipal	48	48	33	33	22 12 0	15 0 0	Adulteration of ghee, mustard oil and tea.	735 0 0

*The samples were offered.

Statement of the working of the Assam Pure Food Act in the Municipalities during the year 1939—concl.

Name of Municipal Board	Number of samples purchased for analysis	Number of samples sent for analysis	Number of samples found adulterated			Number of prosecutions instituted			Number of convictions secured for last offence			Number of convictions secured for subsequent offences			Amount of fine or imprisonment for impurities or deficiencies (average)			Amount of fine or imprisonment for each subsequent offence (average)			Total amount of fine or imprisonment received during 1939			Remarks
			1	2	3	4	5	6	7	8	9	10	11	12	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	
Goalpara Municipal Board	4	4	1	1	1	1	1	1	...	75	0	0	Adulteration of mustard oil.	75	0	0	32
Polashbari Town Committee.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Gauhati Municipal Board	...	9	3	3	3	3	3	3	...	...	...	...	...	...	Adulteration of milk, <i>ghee</i> and mustard oil.	...	...	...	...	...	...	...	...
Barpeta Municipal Board	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nalbari Town Committee	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mangaldai Town Committee.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sibsagar Municipal Board	18	15	10	10	10	10	10	10	...	395	0	0	...	...	Adulteration of <i>ghee</i> , mustard oil and tea.	395	0	0	...	...	...	...	...
Nazira Town Committee	3	3	3	3	2	2	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hailakandi Town Committee.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Adulteration of mustard oil.	80	0	0	...	...	...	...	...
Maulvi Bazar Municipal Board.	4	4	3	3	3	3	3	3	...	80	0	0	...	...	...	...	...	...	...	...	...	...
Habiganj Municipal Board	20	20	11	11	10	9	9	9	...	215	0	0	...	...	Adulteration of <i>ghee</i> , milk and mustard oil.	215	0	0	One compromised on payment of Rs. 10 to the Municipal Fund and one discharged by the Magistrate with warning.	...	...	...	...

Statement of the working of the Assam Pure Food Act in the Local Boards during the year 1939

Name of Municipal Board	Number of samples purchased	Number of samples sent for analysis	Number of samples found adulterated	Number of prosecutions instituted	Number of convictions secured for last offence	Number of convictions secured for subsequent offences	Amount of fine or impri- sonment for first offence (average)	Amount of fine or impri- sonment for each sub- sequent offence (average)	Nature of offence	Total amount of fine recovered during 1939	Remarks
Barpeta Local Board
Nowgong Local Board
Dibrugarh Local Board
North Lakhimpur Local Board.
North Sylhet Local Board
Habiganj Local Board
Sunamganj Local Board
South Sylhet Local Board	4	4	4	4	4	4	4	4	4	4	4
Hailakandi Local Board
Goalpara Local Board
Mangaldai Local Board	...	7	7	7	7	7	7	7	7	7	7
Jorhat Local Board
Sibsagar Local Board	...	15	8	8	8	7	8	8	7	8	8
Golaghat Local Board	...	15	8	8	8	7	8	8	7	8	8
Dhubri Local Board	...	2	2	1	1	1	1	1	1	1	1
Silchar Local Board	...	1	1	1	1	1	1	1	1	1	1
Karimganj Local Board...	25	25	20	18	18	12	12	12	12	12	12
Tezpur Local Board	...	7	7	7	7	3	2	2	2	2	2

69. *Port Health Administration*.—Nil.

70. *Sanitary Works*.—This is dealt with in Chapter VI, under heading “Urban Sanitation”.

71. *Public Health Board*.—There was no meeting of the Public Health Board during 1939. The Health Board (Epidemics) functioned as in previous years.

CHAPTER XVI

GENERAL REMARKS

72. *Research work*.—The research work in the province is entrusted to the Assam Medical Research Society. The Society receives an annual contribution of Rs.20,000 from the Government of Assam. The Director of Public Health, Assam, is an *ex-officio* member of the Governing Body. The activities of the Society are concerned with malaria, cholera and dysentery and lately confined to work on malaria. As in previous years, surveys of malarious areas were undertaken during the year under review. The work done by the Society in regard to malaria is mentioned in Chapter VIII of the report.

73. *Leper Asylum and Colonies*.—The table below gives the details of the patients treated in the existing leper institutions in the province:—

	Remaining from the previous year	Admis-sions during the year	Total	Dis-charged, cured or relieved	Dis-charged other- wise	Died	Remain-ing at the end of the year
1	2	3	4	5	6	7	8
Leper Asylum, Sylhet	...	75	21	96	2	17	4
Leper Hospital, Kohima	...	24	6	30	...	4	5
Leper Ward, Dhubri	...	8	75	83	1	33	...
Leper Asylum, Gauhati	...	23	85	108	...	26	4
Leper Colony, Tura	...	92	36	128	1	23	9
Leper Asylum, Barpeta	...	16	6	22	...	9	...
							13

The treatment is available in out-patients' clinics at all sadr and subdivisional headquarters hospitals and at many of the outlying Public Health Department and Local Board Dispensaries. The Mission Leper Colony at Jorhat treated 116 lepers during 1939.

74. *Famine*.—No remarks.

75. *Public Health Acts*.—No Public Health Act was passed during the year.

76. *Public Health Essays*.—The Secretary, Assam Red Cross Society, did not submit any scheme for holding essay and poster competitions in Public Health.

77. *Bacteriophage*.—The Pasteur Institute and Medical Research Institute, Shillong, issued 244,704 doses of bacteriophage during 1939 as compared with 495,872 doses in 1938.

78. *Plasmoquine and Atebrin*.—These drugs were tried experimentally in the treatment and prevention of malaria.

79. *Personal Proceedings*.—I held charge of the Department throughout the year while the posts of Assistant Directors of Public Health, Surma Valley and Hill Division and Assam Valley Division were held by Dr. S. H. Paul, L.R.C.P., M.R.C.S., D.P.H., D.T.M., and Dr. S. C. Dutt, M.B., D.P.H., respectively throughout the year.

80. *Office*.—My office continues to work satisfactorily. Further progress in the improvement of the work in the office has not been possible on account of the increase in the amount of work and the want of staff. An additional clerk was entertained temporarily for four months to help with the preparation of the statistics for the annual report. The speed with which these were prepared and compiled and the production of the report in due time is due to this help. On this analogy, I believe, I would be correct to say, that given similar relief in the permanent office staff, most of the difficulties the office finds in keeping up to date with its work, will disappear.

SHILLONG :

The 16th July 1940.

A. M. V. HESTERLOW,

Lieut.-Colonel, I.M.S.,
Director of Public Health, Assam.

IMPERIAL STATEMENT No. I.—Statement showing the births registered in the districts of Assam during the year 1939

No.	Districts	Estimated population			Grand total number of births registered			Ratio of births per 1,000 of population			Number of males born to every 100 females born	Mean ratio of births per 1,000 during the previous five years		
		Male	Female	Total	Male	Female	Total	Male	Female	Total				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SURMA VALLEY														
1	Cachar	302,412	269,630	572,092	10,225	9,559	19,784	17.87	16.71	34.58	107	16.84	15.93	32.77
2	Sylhet	1,535,143	1,436,017	2,971,160	46,283	42,195	88,478	15.58	14.20	29.78	110	16.53	15.33	31.86
	Total	1,837,555	1,705,697	3,543,252	56,508	51,754	108,262	15.94	14.61	30.55	109	16.58	15.42	32.00
ASSAM VALLEY														
3	Goalpara	504,951	442,998	947,949	16,076	14,930	31,006	16.95	15.74	32.69	108	16.54	15.40	31.94
4	Kamrup	544,665	491,348	1,036,013	10,442	9,531	19,973	10.08	9.20	19.28	110	10.39	9.68	20.07
5	Darrang	337,398	284,780	622,178	9,306	9,108	18,414	14.96	14.64	29.60	102	15.02	14.36	29.38
6	Nowgong	314,209	277,724	591,933	7,182	6,822	14,004	12.13	11.52	23.65	105	9.11	8.51	17.62
7	Sibsagar	532,396	468,504	1,000,900	14,687	13,858	28,545	14.67	13.84	28.51	106	13.58	12.71	26.29
8	Lakhimpur	430,238	351,353	781,591	11,372	10,852	22,224	14.55	13.88	28.43	105	14.67	14.08	28.75
	Total	2,663,857	2,316,707	4,980,564	69,065	65,101	134,166	13.87	13.07	26.94	106	13.30	12.52	25.82
	Total for the province.	4,551,412	4,022,404	8,523,816	125,573	116,855	242,428	14.73	13.71	28.44	107	14.67	13.73	28.40

IMPERIAL STATEMENT No. II.—*Statement showing the deaths registered in the districts of Assam during the year 1939*

Districts	Number of deaths registered	Deaths per 1,000 of population from—										Total								
		All causes					Female													
Male		Female		Total		Male		Female		Total		Average population per square mile								
2		3		4		5		6		7										
SURMA VALLEY																				
Cachar	1,972	73	6,271	6,092	12,363	·36	...	10·70	2·37	1·38	·29	6·51	20·73	22·59	21·61	20·15	22·38	21·20		
Sylhet ...	5,478	497	31,681	29,114	60,795	·80	·60	...	11·18	1·24	·42	·25	5·97	20·64	20·27	20·46	22·70	22·13	22·43	
Total	...	7,450	438	37,952	35,206	73,158	·73	·51	...	11·10	1·42	·58	·25	6·05	20·65	20·64	20·65	22·27	22·11	22·23
ASSAM VALLEY																				
Goalpara	3,985	222	12,548	11,079	23,627	·05	·01	...	23·37	·35	·24	·14	·74	24·85	25·01	24·92	22·99	22·58	22·80	
Kamrup	...	3,844	254	6,254	5,744	11,998	·22	·13	...	9·01	·43	·28	·14	1·37	11·48	11·69	11·58	12·92	13·22	13·06
Darrang	...	2,842	206	6,706	6,113	12,819	·03	·13	...	12·55	1·69	1·18	·30	4·74	19·88	21·47	20·60	19·20	22·05	20·51
Nowrang	...	3,896	144	5,175	4,913	10,088	·13	·16	...	13·42	1·18	·35	·14	1·65	16·47	17·69	17·04	11·37	11·79	11·57
Sibsagar	...	5,131	182	9,547	8,908	18,455	·04	·08	...	10·46	2·36	1·17	·21	4·12	17·93	19·01	18·44	16·85	18·14	17·45
Lakhimpur	...	4,234	171	7,247	6,727	13,974	·01	·01	...	8·73	2·21	1·66	·30	4·95	16·84	19·14	17·88	19·44	22·58	20·85
Total	...	23,932	195	47,477	43,484	90,961	·08	·08	...	12·96	1·33	·79	·20	2·82	17·82	18·77	18·26	17·28	18·33	17·77
Total for the province.	31,382	253	85,429	78,690	164,119	·35	·26	...	12·19	1·37	·70	·22	4·16	18·98	19·56	19·25	19·97	19·97	19·63	

IMPERIAL STATEMENT No. III.—Deaths registered in the districts of Assam during each month of the year 1939

No.	Districts	Population	January	February	March	April	May	June	July	August	September	October	November	December	Total deaths registered during the year 1939	
			2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<i>Surma Valley</i>																
1 Cachar	Urban ..	17,394	27	15	18	15	31	35	23	25	34	28	290	1,133	12,073	
	Rural ..	554,698	1,301	1,079	1,095	1,183	1,091	754	873	698	875	1,016	1,133	1,133	12,073	
2 Sylhet..	Total ..	572,092	1,328	1,094	1,113	1,198	1,122	1,010	770	896	721	900	1,050	1,161	12,363	
	Urban ..	51,108	102	72	77	68	71	50	40	70	56	49	74	75	804	
3 Goalpara	Rural ..	2,920,052	9,366	6,086	4,428	5,034	4,488	3,982	3,804	3,777	3,713	4,263	5,385	5,665	59,991	
	Total ..	2,971,160	9,468	6,158	4,505	5,102	4,559	4,032	3,844	3,847	3,769	4,312	5,459	5,740	60,795	
4 Kamrup	Urban ..	23,885	36	17	32	31	34	30	54	62	45	44	22	452	23,175	
	Rural ..	924,064	1,747	1,269	1,530	2,163	2,033	2,129	2,447	2,475	1,791	1,876	1,815	1,900	1,900	
5 Darrang	Total ..	947,949	1,783	1,286	1,562	2,194	2,067	2,159	2,501	2,537	1,836	1,921	1,859	1,922	23,627	
	Urban ..	49,111	62	41	51	60	69	60	90	90	63	59	82	46	784	
6 Nowgong	Rural ..	986,902	720	661	919	1,030	912	1,216	1,345	1,257	792	806	804	752	11,214	
	Total ..	1,036,013	782	702	970	1,090	981	1,276	1,446	1,347	855	865	886	798	11,994	
7 Sibsagar	Urban ..	12,434	32	12	16	25	17	24	23	29	24	15	14	24	255	
	Rural ..	609,744	862	680	941	1,239	1,306	1,256	1,238	1,259	902	978	910	993	12,564	
8 Lakhimpur	Total ..	622,178	894	692	957	1,264	1,323	1,280	1,261	1,282	926	993	924	1,017	12,819	
	Urban ..	11,782	12	15	14	39	27	25	25	23	23	22	27	27	265	
	Rural ..	580,151	1,484	500	758	789	864	1,015	1,192	1,148	823	800	742	708	9,8 3	
	Total ..	591,933	496	515	772	803	903	1,042	1,217	1,173	846	822	764	735	10,088	
	Urban ..	25,612	39	25	27	40	38	49	40	52	30	47	46	31	464	
	Rural ..	975,288	1,084	973	1,024	1,126	1,711	1,829	2,240	1,905	1,505	1,621	1,521	1,452	17,991	
	Total ..	1,000,900	1,123	998	1,051	1,166	1,749	1,878	2,280	1,957	1,535	1,668	1,567	1,483	18,455	
	Urban ..	29,374	43	24	35	25	50	39	31	37	48	65	42	45	484	
	Rural ..	752,219	911	894	1,034	893	1,094	1,372	1,280	1,278	1,058	1,311	1,302	1,063	13,490	
	Total ..	781,591	954	918	1,069	918	1,144	1,411	1,311	1,315	1,106	1,376	1,344	1,108	13,974	
	Total for the towns ..	220,700	353	221	270	278	349	314	330	388	312	327	358	298	3,798	
	Ratio per mille for towns ..	..	19.46	12.18	14.88	15.32	19.24	17.31	18.19	21.39	17.20	18.03	19.73	16.43	17.21
	Total for rural circles ..	80,73,116	16,475	12,142	11,729	1,457	13,499	13,774	14,300	13,972	11,282	12,530	13,495	13,666	160,321	
	Ratio per mille of population ..	..	24.14	17.79	17.19	19.72	19.78	20.18	20.95	20.47	16.53	18.36	19.77	20.02	19.31
	Total for the province ..	8,523,816	16,828	12,363	11,999	13,735	13,948	14,088	14,360	11,594	12,857	13,853	13,964	164,119		
	Ratio per mille for the province ..	..	24.02	17.65	17.13	19.60	19.77	20.11	20.88	20.50	16.55	18.35	19.77	19.93	19.25

Ratios have been calculated with reference to number of days in each month. This table includes municipalities and small towns in which registration of vital statistics is compulsory.

IMPERIAL STATEMENT No. IV.—Deaths registered according to age in the districts (rural circles) and towns of Assam during the year 1939

No.	A.—RURAL CIRCLES	Under 1 year		Total		1 and under 5 years		5 and under 10 years		10 and under 15 years		15 and under 20 years		20 and under 30 years		30 and under 40 years		40 and under 50 years		50 and under 60 years		60 and upwards		Total of all ages														
		Not exceeding 1 month		Over 1 month and not exceeding 6 months		Over 6 months and not exceeding 12 months		Male		Female		Male		Female		Male		Female		Male		Female		Male		Female												
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
1	Cachar ..	527	318	845	422	239	661	1,506	497	399	396	219	215	434	1,561	1,275	2,836	933	934	359	296	196	133	147	302	419	822	485	622	406	322	415	317	1,129	950	6,100	5,973	
2	Sylhet ..	2,842	1,739	4,581	2,142	2,39	661	1,506	497	399	396	219	215	434	1,561	1,275	2,836	933	934	359	296	196	133	147	302	419	822	485	622	406	322	415	317	1,129	950	6,100	5,973	
3	Goalpara ..	656	478	1,134	546	376	922	2,056	1,068	1,016	2,114	579	533	1,112	2,781	2,501	5,282	1,948	1,962	1,102	917	579	486	503	674	1,077	1,302	930	1,159	930	1,129	705	892	612	1,126	760	12,296	10,579
4	Kamrup ..	336	221	557	262	169	431	983	414	379	793	227	244	471	1,198	1,054	2,252	1,134	1,157	544	468	209	172	175	252	405	604	527	482	349	517	390	666	428	5,857	5,357		
5	Darrang ..	215	245	460	229	239	468	923	733	619	1,352	321	338	659	1,514	1,425	2,939	1,064	943	462	410	371	286	299	391	526	393	433	406	432	321	430	297	510	349	3,025	4,798	
6	Nowrang ..	146	172	318	130	171	301	619	383	396	784	242	236	478	948	933	1,881	975	1,927	459	398	228	192	211	282	399	393	393	433	406	432	321	430	297	510	349	3,025	4,798
7	Sibsagar ..	467	423	890	352	267	619	1,509	593	516	1,109	374	350	724	1,857	1,485	3,342	1,758	1,687	841	742	440	406	443	530	622	1,039	757	880	734	586	801	555	1,024	804	9,277	8,714	
8	Lakhimpur ..	276	260	536	276	224	500	1,036	403	376	779	288	241	529	1,227	1,117	2,344	1,335	1,261	547	499	258	249	262	307	467	841	747	686	612	487	578	418	336	676	6,949	6,541	
	Total for rural circles.	5,465	3,856	9,359	2,949	7,308	16,629	6,499	5,803	1,2302	3,436	3,186	6,622	19,256	16,297	35,553	13,400	13,045	6,209	5,469	3,468	2,809	3,166	4,312	6,309	9,862	7,232	7,163	6,936	4,990	6,594	4,912	10,728	8,164	83,298	77,023		
	Ratio per mille.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

STATEMENT No. IV(a)—*showing mortality under one year by classes*

Districts	Hindus			Muhammadans			Christians			Buddhists			Other classes		
	Number		Ratio per 1,000 births	Number		Ratio per 1,000 births	Number		Ratio per 1,000 births	Number		Ratio per 1,000 births	Number		Ratio per 1,000 births
	Number	Ratio per 1,000 births	Number	Ratio per 1,000 births	Number	Ratio per 1,000 births	Number	Ratio per 1,000 births	Number	Number	Ratio per 1,000 births	Number	Number	Ratio per 1,000 births	
Cachar	1,486	75.11	1,395	70.51	2	10	...	...	4	...	...	20	
Sylhet	5,510	62.27	9,348	105.65	3	03	...	...	11	...	...	12	
Goalpara	2,158	69.60	2,397	77.31	91	2.93	...	...	735	...	...	23.70	
Kamrup	1,952	97.73	309	15.47	7	35	1	05	144	...	...	7.21	
Darrang	2,144	116.43	269	14.61	225	12.22	...	...	355	...	...	19.28	
Nowrang	1,290	92.12	443	31.63	19	1.36	4	28	175	...	...	12.50	
Sibsagar	3,071	107.58	85	2.98	15	.52	6	21	241	...	...	8.44	
Lakhimpur	1,939	87.25	78	3.51	126	5.67	21	.94	240	...	...	10.80	
Total	19,550	80.64	14,324	59.08	488	2.01	32	.13	1,905	...	...	7.86	

Separate figures for Indian Christians are not available.

IMPERIAL STATEMENT No. V.—Deaths registered according to class in the districts of Assam during the year 1939

Number of deaths registered

Ratio of deaths per 1,000 of population

Districts	Hindus			Muhammadans			Christians			Buddhists			Other classes			Other classes			Hindus			Muhammadans			Christians			Buddhists			Other classes		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total			
SURMA VALLEY	3,727	3,642	7,369	2,488	2,396	4,884	13	18	31	..	..	..	43	36	79	19.83	21.75	20.73	22.64	24.41	23.48	8.37	13.73	10.82	..	..	..	14.62	13.14	13.91
Cachar ..	12,005	11,167	23,172	19,613	17,889	37,502	6	5	11	..	..	..	57	53	110	19.11	19.03	19.07	21.72	21.15	21.44	3.33	3.43	3.33	..	..	..	24.96	25.53	25.23
Sylhet ..	15,732	14,809	30,541	22,101	20,285	42,386	19	23	42	..	..	..	100	89	189	19.28	19.63	19.45	21.82	21.49	21.66	5.67	8.31	6.86	..	..	..	19.06	18.48	18.78
Total ..	32,440	29,942	62,382	9,265	8,106	17,371	862	792	1,654	100	100	200	4,810	4,544	9,354	16.83	17.80	17.28	17.05	17.54	17.28	20.44	22.05	21.18	14.68	20.68	17.17	33.45	34.55	33.98			
ASSAM VALLEY	4,138	8,980	5,639	5,004	10,643	1,611	206	367	2	1,906	1,729	3,635	21.64	21.70	21.66	25.55	25.32	15.30	21.95	18.43	..	6.76	3.26	42.62	32.97	37.41							
Goalpara	4,677	4,419	9,096	1,133	969	2,102	57	33	90	2	2	385	323	708	11.89	12.27	12.07	8.19	8.24	17.67	12.17	15.16	3.31	..	2.39	35.33	32.46	33.96					
Kamrup ..	4,970	4,677	9,647	656	533	1,189	268	201	469	12	9	21	800	693	1,493	18.95	21.02	19.90	16.43	16.71	16.55	29.78	26.01	28.05	14.00	22.22	16.64	31.63	31.13	31.40			
Darrang ..	3,316	3,115	6,431	1,252	1,135	2,387	41	40	81	..	..	..	566	623	1,189	18.26	19.35	18.77	13.13	12.45	13.13	12.76	14.90	15.66	15.27	..	..	19.37	22.48	20.88
Nowrang	8,339	7,781	16,120	327	295	622	104	97	201	37	29	66	740	706	1,446	17.45	18.36	17.88	12.24	14.49	13.21	12.56	14.88	14.17	23.73	23.35	23.56	39.57	42.68	41.03			
Sibsagar	6,296	5,812	12,108	258	170	428	231	215	446	49	60	109	413	470	883	16.19	17.91	16.97	13.64	18.76	15.30	25.64	30.64	27.83	14.29	22.60	17.90	41.40	57.33	48.58			
Lakhimpur	100	100	200	4,810	4,544	9,354	16.83	17.80	17.28	17.05	17.54	17.28	20.44	22.05	21.18	14.68	20.68	17.17	33.45	34.55	33.98	..	..	..	..	..	..	..	..	..
Total ..	32,440	29,942	62,382	9,265	8,106	17,371	862	792	1,654	100	100	200	4,910	4,633	9,543	17.56	18.37	17.94	20.15	20.19	20.17	19.35	21.07	20.14	14.52	20.53	17.01	32.94	33.99	33.44			

IMPERIAL STATEMENT No. VI.—Deaths registered from different causes in the districts and towns of the province of Assam during the year 1939

District and towns No.	Estimated Population No.	Births		Deaths from		Ratio of deaths per 1,000 of population	
		Male	Female	Male	Female	Male	Female
DISTRICTS EXCLUDING TOWNS							
Assam Valley							
1 Cachar ..	554,698	10,004	9,333	19,337	34,86	201	..
2 Sylhet ..	2,920,052	45,489	41,518	87,007	29,80	2,383	1,763
Total ..	34,74,750	55,493	50,851	106,344	30·60	2,584	1,763
Assam Valley							
3 Goalpara ..	924,064	15,610	14,537	30,147	32,60	49	9 ..
4 Kamrup ..	986,902	9,593	8,707	18,300	18·48	222	106 ..
5 Darrang ..	609,744	9,097	8,934	18,031	29·57	17	81 ..
6 Nowrang ..	580,151	6,976	6,593	1,3569	23·38	79	93 ..
7 Sibsagar ..	975,288	14,313	13,545	27,858	28·56	42	82 ..
8 Lakhimpur ..	752,217	11,023	10,521	21,544	28·64	11	12 ..
Total ..	4,828,366	66,612	62,837	129,449	26·81	420	383 ..
Total of districts excluding towns	8,303,416	122,105	113,688	235,793	28·40	3,004	2,146 ..
Small-Pox							
1 Diphthery and diarrhoea							
2 Fever							
3 Cholera							
4 Plague							
5 Small-Pox							
6 Diphthery and diarrhoea							
7 Fever							
8 Cholera							
9 Plague							
10 Small-Pox							
11 Diphthery and diarrhoea							
12 Fever							
13 Cholera							
14 Plague							
15 Small-Pox							
16 Diphthery and diarrhoea							
17 Fever							
18 Cholera							
19 Plague							
20 Small-Pox							
21 Diphthery and diarrhoea							
22 Fever							
23 Cholera							
24 Plague							
25 Small-Pox							
26 Diphthery and diarrhoea							
27 Fever							
28 Cholera							
29 Plague							
30 Small-Pox							
31 Diphthery and diarrhoea							
32 Fever							
33 Cholera							
34 Plague							
35 Small-Pox							
36 Diphthery and diarrhoea							
37 Fever							
38 Cholera							
39 Plague							
40 Small-Pox							
41 Diphthery and diarrhoea							
42 Fever							
43 Cholera							
44 Plague							
45 Small-Pox							
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48 Cholera							
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58 Cholera							
59 Plague							
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67 Fever							
68 Cholera							
69 Plague							
70 Small-Pox							
71 Diphthery and diarrhoea							
72 Fever							
73 Cholera							
74 Plague							
75 Small-Pox							
76 Diphthery and diarrhoea							
77 Fever							
78 Cholera							
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83 Cholera							
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135 Small-Pox							
136 Diphthery and diarrhoea							
137 Fever							
138 Cholera							
139 Plague							
140 Small-Pox							
141 Diphthery and diarrhoea							
142 Fever							
143 Cholera							

TOWNS	Assam Valley										Surma Valley																			
Silchar ..	13,933	170	340	24·40	3	..	40	32	41	1	..	215	87	12	11	11	1	..	2·87	2·30	2·94	0·86	6·24	15·43	13·04	1				
Hailakāndi ..	2,291	33	38	71	30·99	..	..	17	7	..	..	3	25	52	..	..	3	..	1·31	10·91	22·70	22·96	2					
Haflong ..	1,170	18	36	30·76	..	..	8	2	5	..	..	8	23	..	..	..	..	..	6·84	1·71	4·27	..	6·84	19·66	29·41	3		
Sylhet ..	23,941	393	323	716	29·91	2	29	..	112	45	36	..	..	5	..	2	7	177	408	·08	1·21	..	0·29	7·39	17·04	14·91	4	
Maulvibazar	4,857	59	48	107	22·03	..	..	10	3	1	..	..	20	28	7	..	3	48	107	·16	..	..	..	6·79	9·68	13·15	5	
Karinganj	6,284	85	73	158	25·14	1	..	..	..	..	..	..	..	..	3	..	..	33	47	..	..	..	..	7·64	17·03	17·90	6	
Habiganj ..	8,362	125	125	250	29·90	..	..	14	13	17	..	..	15	..	1	..	16	81	141	..	1·67	1·55	2·03	1·91	9·69	16·86	20·17	7
Sunamganj ..	6,030	92	77	169	28·03	2	..	..	..	23	1	3	..	..	..	..	..	..	52	81	·33	..	..	..	8·62	13·43	19·63	8
Srimangal ..	1,634	40	31	71	43·45	2	..	..	..	9	4	..	..	..	..	..	..	5	20	1·22	..	..	..	5·51	2·45	6·85	9	
Total ..	68,502	1015	903	1,918	28·00	10	29	..	253	135	110	1	..	..	37	..	3	41	516	1,094	·15	0·42	..	3·69	1·97	7·53	15·97	16·07
Dhubri ..	10,597	204	181	385	36·33	..	..	..	57	18	24	1	..	..	8	3	..	12	118	229	..	..	..	11·14	21·61	16·44	10	
Goalpara ..	7,141	100	97	197	27·58	1	..	..	46	9	18	..	..	..	1	1	..	2	27	103	0·14	..	..	..	3·78	14·42	14·57	11
Gauripur ..	6,147	162	115	277	45·06	..	..	..	46	4	3	..	..	..	..	..	..	..	67	120	..	..	..	..	7·48	0·65	0·49	..
Gauhati ..	24,249	374	354	728	39·02	2	..	..	115	35	57	..	..	..	5	..	..	1	..	392	0·08	..	..	..	7·31	16·16	15·70	13
Barpeta ..	17,341	386	384	770	44·40	3	..	..	119	28	46	..	..	..	1	4	1	..	104	328	0·17	1·27	..	..	6·86	1·61	2·65	0·35
Palashbari ..	4,157	75	80	155	37·28	..	..	..	12	11	9	..	..	..	1	1	..	23	57	..	..	..	..	2·89	2·64	2·16	0·48	
Nalbari ..	3,364	14	6	20	23·78	..	..	..	4	4	..	..	..	..	..	..	..	3	7	..	..	..	..	4·76	..	..	3·57	
Tezpur ..	10,607	177	148	325	30·64	..	..	..	31	44	47	..	..	..	9	..	..	10	92	224	..	..	..	..	2·92	4·15	4·43	0·94
Mangaldai ..	1,827	32	26	58	31·74	..	..	..	14	7	3	..	..	..	8	..	..	..	766	3·83	1·64	..	..	..	..	..	..	..
Nowgong ..	11,782	206	229	435	36·92	..	..	..	58	56	26	..	..	..	..	..	..	..	117	265	..	..	..	..	4·92	4·75	2·20	0·68
Jorhat ..	9,274	158	148	306	32·99	..	..	..	36	18	15	..	..	..	8	..	..	..	106	183	..	..	..	..	3·88	1·94	1·62	0·86
Sibsagar ..	7,503	94	64	158	21·06	..	..	..	19	13	10	..	..	..	2	..	..	..	21	67	..	..	..	..	2·53	1·73	1·33	0·53
Nazira ..	3,858	46	36	82	21·25	..	..	..	20	16	3	..	..	..	..	..	..	..	15·18	4·15	0·78	..	..	..	..	..	..	..
Golaghat ..	4,977	76	65	141	28·33	78	23	17	1	1	52	171	15·67	4·62	3·41	0·20	
Dibrugarh ..	19,390	235	224	459	23·67	48	49	89	19	1	20	142	348	2·47	2·53	4·59	1·03	
Tinsukia ..	5,718	66	69	135	23·61	31	10	6	1	1	26	74	5·42	1·73	1·05	0·17	
Doom Dooma ..	1,961	13	4	17	8·67	..	..	..	13	1	4	..	..	..	1	..	..	..	1	19	..	..	..	..	6·62	·51	2·04	0·51
North Lakhimpur.	2,305	35	34	69	29·93	20	8	6	8	43
Total ..	152,198	2,453	2,264	4,717	30·99	6	22	..	767	350	383	1	1	68	7	5	82	1,094	2,704	0·04	..	..	..	5·04	2·30	2·52	0·54	7·19
Total for the towns.	220,700	3,468	3,167	6,635	30·06	16	51	..	1,020	485	493	2	1	105	7	8	123	1,610	3,798	0·07	..	..	..	4·62	2·20	2·23	0·56	7·29
Total for the province.	8,523,816	125,573	116,855	242,428	28·44	3,020	2,197	..	103,892	11,641	5,981	189	89	1,364	197	54	1,893	35,495	164,119	0·35	..	..	..	1·36	0·70	0·22	4·16	19·69

Supplementary (optional) Statement VI(a) for the year 1939

This table includes municipalities and small towns in which registration of vital statistics is compulsory.

IMPERIAL STATEMENT No. VII.—Deaths registered from small-pox in the districts of Assam during each month of the year 1939

No.	Districts	Circles of Registration	Villages	Number in each district	Number from which details from small-pox were reported	Number from which details from small-pox were reported	Number in each district	Villages	Circles of Registration	Surma Valley										Assam Valley										Naga Hills																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
										January	February	March	April	May	June	July	August	September	October	November	December	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
1	Cachar	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	9

No.	Districts	Circles of registration	Villages	Ratio of deaths per 1,000 of population												No.											
				Total				Male				Female															
Five years ratio per 1,000 of previous														Total													
				January	February	March	April	May	June	July	August	September	October	November	December	Male	Female										
1		2		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
			SURMA VALLEY																								
1	Cachar	..	..	13	12	1,607	539	635	509	511	547	632	571	433	495	354	396	480	557	3,176	2,944	6,120	10·50	10·91	10·70	10·68	1
2	Sylhet	..	..	41	40	11,717	4,369	2,926	2,401	2,847	2,549	2,353	2,468	2,445	2,307	2,486	2,938	3,137	17,491	15,735	33,226	11·39	10·96	11·18	12·59	2	
	Total	..		54	52	13,324	12,256	5,004	3,435	2,912	3,394	3,181	2,924	2,901	2,940	2,661	2,882	3,418	3,694	20,667	18,679	39,346	11·25	10·95	11·10	12·28	
			ASSAM VALLEY																								
3	Goalpara	..	..	18	17	3,183	3,040	1,630	1,231	1,463	2,039	1,946	2,046	2,390	2,402	1,736	1,789	1,683	1,811	11,778	10,388	22,166	23·56	23·37	21·00	3	
4	Kamrup	..	..	17	17	2,738	737	515	535	727	846	784	1,064	1,194	1,122	656	597	663	4,883	4,455	9,338	8·97	9·06	9·01	9·45	4	
5	Darrang	..	..	14	13	1,978	1,659	561	506	509	693	685	761	689	807	576	648	580	793	4,202	3,606	7,808	12·45	12·66	12·55	13·27	5
6	Nowrang	..	..	12	11	2,323	67	358	404	542	617	734	850	1,014	919	669	674	575	591	4,079	3,868	7,947	12·98	13·93	13·42	9·05	6
7	Sibsagar	..	..	17	17	2,284	2,315	553	540	581	1,047	1,144	1,614	1,088	829	872	830	783	5,550	4,916	10,466	10·42	10·49	10·46	9·69	7	
8	Lakhimpur	..	..	17	17	2,498	1,249	423	383	522	422	564	794	737	638	530	581	654	573	3,730	3,091	6,821	8·67	8·80	8·73	10·06	8
	Total	..		95	92	15,009	9,067	4,040	3,599	4,344	5,202	5,760	6,659	7,638	6,976	4,996	5,161	4,985	5,186	34,222	30,324	64,546	12·85	13·09	12·96	12·22	
	Total for the Province			149	144	28,333	21,323	9,044	7,034	7,256	8,506	8,941	9,533	10,539	9,916	7,657	8,043	8,403	8,880	54,889	49,003	103,892	12·19	12·18	12·19	12·25	

IMPERIAL STATEMENT NO. X—Deaths registered from Dysentery and Diarrhoea in the districts of Assam during each month of the year 1939

No.	Districts	Circles of registration	Villages	Ratio of deaths per 1,000 of population												No.	Mean ratio per 1,000 of previous five years										
				Total			Male			Female			Total			Male											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26		
	SURMA VALLEY																										
1	Cachar	..	..	13	12	1,607	172	135	119	176	199	160	116	59	77	54	64	98	99	732	624	1,356	2·43	2·31	2·37	1·81	1
2	Sylhet	..	..	41	40	11,717	1,950	805	404	297	376	259	206	180	169	184	286	298	1,961	1,709	3,670	1·28	1·19	1·24	1·17	2	
	Total	..		54	52	13,324	2,122	940	523	473	575	419	322	265	257	223	248	384	397	2,693	2,333	5,026	1·46	1·37	1·42	1·27	
	ASSAM VALLEY																										
3	Goalpara	..	..	18	16	3,188	126	46	8	17	41	41	13	27	35	15	13	58	16	195	135	330	·39	·30	·35	·19	3
4	Kamrup	..	..	17	15	2,738	309	29	19	28	32	35	46	56	49	51	40	34	29	261	187	448	·48	·38	·43	·44	4
5	Darrang	..	..	14	13	1,978	281	42	33	113	142	118	90	128	104	84	81	68	46	570	479	1,049	1·69	1·68	1·69	1·70	5
6	Nowrang	..	..	12	10	2,323	37	24	34	63	66	63	71	82	79	59	57	61	38	396	301	697	1·26	1·08	1·18	·68	6
7	Sibsagar	..	..	17	17	2,284	742	100	102	128	189	264	328	275	234	178	232	155	175	1,253	1,107	2,360	2·35	2·36	2·40	2·40	7
8	Lakhimpur	..	..	17	17	2,498	155	97	53	100	119	179	138	204	195	236	159	72	896	835	1,731	2·08	2·38	2·21	2·59	8	
	Total	..		95	88	15,009	1,650	338	249	449	589	700	784	763	705	525	602	535	376	3,571	3,044	6,615	1·34	1·31	1·33	1·31	
	Total for the province..			149	140	28,333	3,772	1,278	772	922	1,164	1,119	1,106	1,028	962	748	580	919	773	6,264	5,377	11,641	1·39	1·34	1·36	1·29	

IMPERIAL STATEMENT No. XI.—Deaths registered from Respiratory diseases in the districts of Assam during each month of the year 1939

49

No.	Districts	Circles of Registration		Villages		Ratio of deaths per 1,000 of population												Mean ratio per 1,000 of previous five years	No.									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
1	SURMA VALLEY	13	11	1,607	164	76	77	81	72	63	73	51	49	46	57	62	84	461	330	791	1.52	1.22	1.38	1.64	1			
2	Sylhet	..	41	38	11,717	554	119	140	117	156	93	113	99	113	67	72	90	82	834	427	1,261	.54	.30	.42	.48	2		
	Total	..	54	49	13,324	718	195	217	198	228	156	186	150	162	113	129	152	166	1,295	757	2,052	.70	.44	.58	.67			
	ASSAM VALLEY	18	15	3,188	37	27	18	16	27	18	10	15	14	16	19	34	18	159	73	232	.32	.16	.24	.15	3			
3	Goalpara	..	17	15	2,738	141	27	31	25	29	19	24	19	21	17	31	26	23	188	104	292	.35	.21	.28	.24	4		
4	Kamrup	..	14	11	1,978	126	52	34	68	90	83	100	68	56	37	40	72	33	413	320	733	1.22	1.12	1.18	1.15	5		
5	Darrang	..	12	10	2,323	32	11	10	17	13	20	25	25	25	22	12	14	25	13	112	95	207	.36	.34	.35	.32	6	
6	Nowrang	..	17	16	2,284	382	124	80	56	80	111	101	99	120	82	106	100	111	673	497	1,170	1.26	1.06	1.17	1.33	7		
7	Sibsagar	..	17	17	2,498	80	121	123	129	104	97	90	81	123	81	143	103	100	782	513	1,295	1.82	1.46	1.66	2.20	8		
	Total	..	95	84	15,009	798	362	296	311	343	346	350	30	356	245	353	360	298	2,327	1,602	3,929	.87	.69	.79	.87			
	Total for the province.	149	133	28,333	1,516	557	513	509	571	504	536	457	518	358	482	512	464	3,622	2,359	5,981	.80	.59	.70	.79				

IMPERIAL STATEMENT No. XII.—Deaths registered from plague in the districts of Assam during each month of the year 1939.

APPENDIX II

PROVINCIAL

Statement showing details of registration in compulsory areas

Compulsory registration area	1	2	Estimated Population	Estimated births at 288 per 1,000 married women between the ages of 15 and 40	Number of births registered during the year	Estimated birth-rate per mille	Number of deaths registered during the year		Death-rate per mille		Number of prosecutions under Act IV (B. C.) of 1873	Number of convictions
							6	7	8	9	10	
Silchar	...	13,933		340	24.40	215	157	15.43	11.27	15	...	...
Hailakandi	...	2,291		71	30.99	52	37	22.70	16.15	...	...	...
Haflong	...	1,170		36	30.76	23	12	19.66	10.26	27	...	...
Sylhet	...	23,941		716	29.91	408	335	17.04	13.99	1	...	1
Maulvibazar	...	4,857		107	22.03	47	24	9.68	4.94	10	...	10
Karimganj	...	6,284		158	25.14	107	85	17.03	13.53	6	...	6
Habiganj	...	8,362		250	29.90	141	115	16.86	13.75	...	...	...
Sunamganj	...	6,030		169	28.03	81	53	13.43	8.79	6	...	4
Srimangal	...	1,634		71	43.45	20	20	12.24	12.24	...	...	...
Dhubri	...	10,597		385	36.33	229	170	21.61	16.04	33	...	18
Goalpara	...	7,141		197	27.58	103	77	14.42	10.78	32	...	23
Gauripur	...	6,147		277	45.06	120	120	19.52	19.52	34	...	4
Gauhati	...	24,249		728	30.02	392	210	16.16	8.66	41	...	29
Barpeta	...	17,341		770	44.40	328	309	18.91	17.82	1	...	...
Palasbari	...	4,157	Not available	155	37.28	57	57	13.71	13.71	11	...	11
Nalbari	...	3,364		20	23.78	7	7	8.32	8.32	...	...	...
Tezpur	...	10,607		325	30.64	224	135	21.12	12.73	36	...	22
Mangaldai	...	1,827		58	31.74	31	20	16.97	10.95	6	...	6
Nowgong	...	11,782		435	36.92	265	178	22.49	15.11	26	...	19
Jorhat	...	9,274		306	32.99	183	116	19.73	12.51	...	...	...
Sibsagar	...	7,503		158	21.06	67	27	8.93	3.60	40	...	...
Nazira	...	3,858		82	21.25	43	43	11.15	11.15	...	...	...
Golaghat	...	4,977		141	28.33	171	92	34.36	18.48	...	...	...
Dibrugarh	...	19,390		459	23.67	348	149	17.95	7.63	...	...	...
North Lakhimpur.	2,305			69	29.93	43	26	18.65	11.28	27	...	19
Doom Dooma...	1,961			17	8.67	19	19	9.69	9.69	...	...	...
Tinsukia	...	5,718		135	23.61	74	69	12.94	12.07	...	...	...
Total	...	220,700		6,635	30.06	3,798	2,662	17.21	12.06	352	172	

A.—VACCINE DEPARTMENT

VACCINATION STATEMENT NO. I.—Showing particulars of vaccination in the province of Assam during the year 1939-40

No.	Districts or towns	Estimated population for the year 1939	Primary vaccination						Re-vaccination						Percentage of successful cases in which the result were known.	Average cost of each successful case performed by the vaccination staff only.		
			Successful			Unsuccessful			Primary			Re-vaccination						
			Under one year	One year and under six years	Total	Unknown	Total	Unsuccessful	Under one year	One year and under six years	Total	Unknown	Total	Unsuccessful				
A.—DISTRICTS (EXCLUDING TOWNS)																		
1	Surma Valley and Hill Division	392,103	17	13,228	9,078	22,306	1,312	11,961	1,214	9,163	11,478	80	10,345	4,852	722	96.61		
2	Silchar Sub-division.	162,595	7	5,562	3,593	9,155	1,308	4,448	347	3,337	4,213	161	4,707	2,011	601	98.27		
3	Hailakandi Sub-division.	36,757	6	2,251	1,462	3,713	619	1,752	250	737	1,396	169	1,961	763	451	88.19		
4	Halong Sub-division.	606,997	28	66,712	58,273	124,985	4,454	46,824	2,482	34,868	45,292	1,287	78,161	36,151	3,667	99.46		
5	Sylhet Sub-division.	549,376	18	16,043	13,749	29,792	1,655	15,680	1,268	10,656	15,299	233	14,112	7,904	1,856	99.04		
6	Karimganj Sub-division.	482,544	17	22,791	19,113	41,904	2,465	21,627	1,181	14,085	20,208	495	20,277	10,050	2,886	95.63		
7	Maulvi Bazar Sub-division.	690,577	30	28,167	24,879	53,046	1,768	30,065	3,504	20,693	27,628	1,291	22,981	10,095	5,388	96.02		
8	Sunamganj Sub-division.	590,558	21	26,346	21,284	47,630	2,268	19,228	1,180	13,689	17,119	923	28,402	12,803	4,913	93.52		
9	Shillong Sub-division.	216,193	6	16,200	17,554	33,754	5,626	15,539	1,576	11,253	15,530	...	18,215	12,474	511	99.94		
10	Jowai Sub-division.	84,857	2	2,226	2,450	4,676	2,338	3,145	365	1,642	3,145	...	1,531	849	37	100.00		
11	Kohima Sub-division.	192,810	7	9,892	7,867	17,759	2,537	6,744	455	4,819	5,716	607	11,015	6,544	2,047	93.14		
12	Lushai Hills ..	146,070	2	5,829	3,963	9,792	4,896	6,056	875	2,791	3,666	350	3,736	1,716	532	64.25		
Total of Surma Valley and Hill Division.		4,151,437	161	215,247	183,265	398,512	2,475	183,069	14,697	127,733	170,690	5,596	215,443	106,212	23,611	96.18		
															55.37	66.70		
															34,981	1 0		
															276,902	0 2 0		

Assam Valley Division		Dhubri Subdivision.		29		29,181		25,195		54,376		1,875		33,236		4,537		17,312		28,685		3,448		21,140		10,941		3,516		96,30		62,08		61,08		8,258		6,0		39,626		0,3,4					
13 Dhubri Subdivision.		648,721		29		29,181		25,195		54,376		1,875		33,236		4,537		17,312		28,685		3,448		21,140		10,941		3,516		96,30		62,08		61,08		8,258		6,0		39,626		0,3,4					
14 Goalpara Subdivision.		275,343		12		12,592		9,600		22,192		1,849		13,494		3,215		7,266		12,175		746		8,698		4,334		1,337		95,50		58,88		59,96		2,516		6,0		16,509		0,2,5					
15 Gauhati Subdivision.		667,298		45		30,351		22,586		52,937		1,176		29,363		4,250		19,289		26,132		2,038		23,574		10,801		6,201		95,63		62,17		55,35		6,035		0,0		36,933		0,2,7					
16 Barpeta Subdivision.		319,604		22		18,410		13,528		31,938		1,452		19,590		1,494		12,425		17,853		883		12,348		6,705		1,745		95,43		63,24		76,84		2,134		0,3		24,558		0,1,5					
17 Tezpur Subdivision.		367,423		23		15,871		14,070		29,941		1,302		15,577		5,072		6,275		13,998		4,01		14,364		9,149		1,296		92,24		70,01		63,00		3,215		2,9		23,147		0,2,3					
18 Mangaldoi Subdivision.		242,321		18		16,340		13,168		29,508		1,639		13,273		2,507		7,294		11,792		4,03		16,235		10,161		1,970		91,62		71,23		90,59		2,155		15,0		21,953		0,1,7					
19 Nowgong Subdivision.		580,151		26		29,626		19,296		48,922		1,882		31,702		9,470		17,654		30,490		..		17,220		11,432		2		96,18		66,40		72,26		5,312		9,0		41,922		0,2,0					
20 Jorhat Subdivision.		348,029		18		13,154		7,776		20,930		1,163		12,640		1,063		8,776		11,194		672		8,290		2,983		1,329		4,329		93,53		1,329		93,53		40,73		2,359		0,0		14,177		0,2,8	
21 Sibsagar Subdivision.		347,215		11		7,414		5,994		13,408		1,219		11,282		318		9,045		9,918		779		2,126		376		946		94,43		31,86		29,65		1,468		0,0		10,294		0,2,3					
22 Ghatghar Subdivision.		280,044		17		8,347		7,042		15,389		905		14,208		1,995		9,121		12,738		870		1,181		610		270		95,50		66,96		47,66		2,328		0,0		13,348		0,2,9					
23 Dibrugarh Subdivision.		591,445		24		16,283		12,198		28,481		1,187		13,961		1,875		10,341		13,560		137		14,520		7,857		5,479		98,09		86,90															

A.—VACCINE DEPARTMENT

VACCINATION STATEMENT No. I.—Showing particulars of Vaccination in the Province of Assam during the year 1939-40

No.	Districts or Towns	Estimated population for the year 1939		Average number of vaccinators employed throughout the year		Vaccinated by each vaccinator		Average number of persons vaccinated		Vaccinated by each vaccinator		Primary vaccination		Re-vaccination		Percentage of successful cases in which the results were known		Persons successfully vaccinated per 1,000 of population	Total cost of the Vaccination Department	Number of all successful vaccinations and re-vaccinations performed by the vaccination staff only	Average cost of each successful vaccination staff		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	B TOWNS <i>Surma Valley and Hill Division.</i>																						
1	Silchar	13,933	1	713	458	1,171	1,171	368	274	88	362	4	803	94	75	99.45	12.91	32.73	486	0	456	1 1 1	
2	Hailakandi	2,291	..	53	64	117	..	108	71	29	100	..	9	4	5	92.59	100.00	45.39	42	0	104	0 6 6	
3	Haflong	1,170	..	42	36	78	..	52	10	12	36	4	26	12	6	75.00	60.00	41.03	..	48	..	..
4	Sylhet	23,941	5	22,872	10,621	33,493	6,699	1,562	552	507	1,255	232	31,931	10,939	7,347	94.36	44.50	50.93	522	0	12,194	0 0 8	
5	Karimganj	6,284	1	573	194	767	767	182	99	69	175	6	585	226	104	99.43	46.99	63.81	112	14	6	401	0 4 6
6	Maibibi Bazar	4,857	1	802	229	1,031	1,031	105	61	44	105	..	926	318	111	100.00	39.02	87.09	62	0	423	0 2 4	
7	Srimangal	1,634	1	96	70	166	166	112	18	83	105	..	54	16	..	93.75	29.63	74.05	40	0	121	0 5 3	
8	Habiganj	8,362	1	774	259	1,033	1,033	265	110	152	263	..	768	290	163	99.25	47.93	66.13	94	0	553	0 2 9	
9	Sunamganj	6,030	1	769	214	983	983	227	53	132	225	1	756	333	74	99.56	48.83	92.54	98	5	6	558	0 2 10
10	Shillong	24,388	1	4,081	3,392	7,473	7,473	682	290	351	682	..	6,791	90	..	100.00	1.33	31.65	320	0	772	0 6 8	
11	Jowai	3,371	..	68	85	153	..	62	15	34	62	..	91	36	..	100.00	39.56	29.07	10	0	98	0 1 8	
12	Kohima	2,841	..	319	105	424	..	83	25	57	82	1	341	93	82	100.00	35.91	61.60	..	175	..	..
Total of Surma Valley and Hill Division.		59,102	12	31,162	15,727	46,889	3,907	3,808	1,578	1,558	3,452	248	12,451	7,967	96.97	160.67	35.46	1,787	3	6	15,903	0 1 10	

3 Dhulbri	..	196	251	447	278	126	140	266	169	49	45.79	29.72	261	3	0	315	0	13	3				
4 Goalpara	..	151	73	224	151	95	55	151	73	73	97.08	45.79	62	1.1	6	151	0	6	8				
5 Gauripur	..	478	284	762	242	582	589	1,165	582	37	92.12	39.96	62	11	6	151	0	10	3				
6 Gauhati	..	2,249	685	480	193	344	340	540	540	160	51.28	28.87	264	98.36	51.28	450	2	0	0				
7 Barpeta	..	17,341	385	312	647	629	375	246	621	7	63.64	63.04	7	99.04	477	2	0	700	0	10	3		
8 Palashbari	..	4,157	..	69	74	134	..	128	94	128	..	100.00	100.00	6	100.00	32.23	48	0	0	628	0	12	2
9 Tezpur	..	10,607	1	215	185	400	371	227	83	319	14	29	13	9	89.36	65.00	31.30	332	1	3	2		
10 Mangaldai	..	1,827	1	28	30	58	57	20	33	53	2	1	1	..	96.36	100.00	29.56	191	11	0	5.4		
11 Nowgong	..	11,782	1	904	388	1,292	1,292	468	310	140	464	..	824	161	47	99.15	20.72	53.05	393	15	0	625	
12 Jorhat	..	9,274	1	194	146	340	340	195	107	191	..	145	..	9	97.95	..	20.59	300	10	0	191		
13 Sibsagar	..	7,503	1	161	135	296	296	186	31	123	154	..	110	55	..	82.80	50.00	27.85	252	0	0	209	
14 Golaghat	..	4,977	1	140	105	245	245	210	122	70	196	..	35	20	3	93.33	62.50	43.40	292	2	0	216	
15 Nazira	..	3,858	1	68	45	113	84	32	42	74	1	29	6	..	89.16	20.69	20.74	329	0	0	80		
16 Dibrugarh	..	19,390	1	531	549	1,080	1,080	640	348	265	613	..	440	166	..	207	95.78	71.24	40.17	320	0	0	779
17 Tinsukia	..	5,718	1	135	124	259	259	219	47	153	207	2	40	15	..	17	95.39	65.22	38.82	279	6	0	222
18 Doon Dooma	..	1,961	1	428	61	489	489	34	24	26	4	455	152	141	15	141	86.67	48.41	90.77	36	2	0	178
19 North Lakhimpur	..	2,305	1	54	41	95	95	75	16	59	75	20	8	12	100.00	100.00	36.01	36	0	0	83		
20 Tura	..	2,257	..	107	37	144	..	39	20	14	34	..	2	105	54	12	91.89	58.06	38.99	88
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Summary

		Total number of persons vaccinated		Total number of operations performed		Percentages of successful cases in which the results were known		Average number of persons vaccinated by each vaccinator		Number of children successfully vaccinated		Ratio of successful vaccinations per 1,000 of population		Number of all successful vaccinations performed		Average cost of each successful case			
		Primary	Re-vaccination	Primary	Re-vaccination	Primary	Re-vaccination	Vaccinators employed	Persons vaccinated by each vaccinator	One and under six years	Under one year	Total cost of the Department	Rs. a. p.	Total cost of the Department	Rs. a. p.	Total cost of the Department	Rs. a. p.		
1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	15	15		
By special staff—																			
Districts excluding towns (Subdivisions).		425,029	375,066	425,029	375,066	95.47	59.41	436	1,835	64,427	265,112	59.75	84,530	3	9	580,027	0	2	4
Towns	...	11,350	48,453	11,350	48,453	94.90	36.97	33	1,812	5,270	4,191	71.19	7,374	14	6	24,621	0	4	10
Total	...	436,379	423,519	436,379	423,519	95.46	56.98	469	1,833	69,697	269,303	60.14	91,905	7	3	604,648	0	2	5
By dispensary staffs	...	2,694	9,085	2,694	9,085	94.27	50.64	...	...	637	1,053	...	...	...	...	...	...	...
By private Medical Practitioners.	
By Railway dispensaries		512	3,279	512	3,279	98.59	37.04	...	...	104	297	...	...	...	...	...	...	...
By other agencies, Tea Gardens, Jail hospitals, Police hospitals, Mental hospital and infectious diseases hospitals.		31,986	38,422	31,986	38,422	94.83	76.15	...	...	17,451	10,522	...	...	...	...	...	...	...
Total	...	35,192	50,786	35,192	50,786	94.85	71.58	...	...	18,192	11,872	...	...	...	...	...	...	...
Shillong Vaccine Depot	15,056	2	0	
Grand total	...	471,571	474,305	471,571	474,305	95.41	58.48	469	2,017	87,889	281,175	60.14	1,06,961	9	3	604,648	0	2	10

B.—DISPENSARY VACCINATION

IMPERIAL STATEMENT NO. II.—Showing Dispensary Vaccination in the Province of Assam during the year 1939-40

Districts	Primary vaccination					Re-vaccination					Re-vaccination					Percentage successful cases in which the results were known	Percentage of unknown cases to total cases	
	Successful		Total		Unknown	Primary		Re-vaccination		Primary		Re-vaccination		Primary		Re-vaccination		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
Cachar	1,000	77	560	896	88	3,979	...	49.47	...	...	...	62.30
Sylhet	2,995	28	112	155	367	1,985	105	2,469	21.69	...	...	80.40
Khasi and Jaintia Hills	533	...	23	79	119	15	113	379	85.61	57.07	9.74	47.76
Naga Hills	127	71	28	30	59	...	56	28	...	...	...	...
Lushai Hills	16	11	4	5	9	...	5	...	83.10	50.00	...	...
Goalpara	81.82	...	...	...
Kamrup	861	...	27	...	...	...	...	...	...	...	...	...
Darrang
Nowrangpur	6	...	4	...	2	...	2	...	...	...	...	...
Sibsagar
Lakhimpur	727	...	206	90	72	...	...	...	...	...	...	...
Garo Hills	1,005	...	514	336	108	445	44	244	5	79.41	47.29	9.97
Manipur State	468	...	167	41	81	122	45	491	194	160	94.68	8.56
Sadiya Frontier Tract	62	14	10	4	14	4	7	48	63	238	100.00	26.95
Balipara Frontier Tract
Total	11,779	...	2,694	637	1,053	2,007	565	9,085	2,006	5,124	94.27	50.64
																	20.97	56.40

IMPERIAL STATEMENT NO. III

Showing the number of persons primarily vaccinated in each of the under-mentioned official years

Vaccinating Agents	Persons primarily vaccinated										
	1930-31		1931-32		1932-33		1933-34		1934-35		1935-36
Total number	Number successfully vaccinated	Total number	Number successfully vaccinated	Total number	Number successfully vaccinated	Total number	Number successfully vaccinated	Total number	Number successfully vaccinated	Total number	Number successfully vaccinated
1	2	3	4	5	6	7	8	9	10	11	12
Government	38,520	33,353	41,320	37,769	35,322	31,076	37,101	39,405	59,210	32,596	28,573
Dispensaries	2,539	2,217	2,753	2,108	2,139	1,629	2,161	1,759	3,414	2,862	5,091
Municipal	4,752	4,521	5,900	5,542	5,846	5,582	5,603	5,336	6,376	6,106	9,926
Local Funds	250,393	230,821	250,148	221,525	284,814	257,327	311,975	272,296	272,775	296,742	293,466
Licensed Vaccinators	..	..	..	..	..	..	..	..	..	..	..
Apprentices	1,145	1,078	600	555	446	406	643	507	1,218	1,142	260
Native States	17,403	15,203	17,551	15,484	15,530	14,782	16,104	14,219	16,129	16,129	15,599
Tea Gardens	..	..	..	..	..	..	..	..	..	..	..
Jails, Mental Hospital, Police Hospitals and Infectious diseases hospitals.	..	..	..	..	..	..	..	..	..	..	..
Railway Dispensaries	..	..	..	..	..	..	..	..	..	..	..
Total	314,752	286,633	318,272	282,983	344,097	310,802	373,587	324,522	383,089	330,666	393,189

STATEMENT IV.—*Showing the number of Vaccinations performed in Municipal towns on children under one year of age during the year 1939-40*

Districts 1	Towns 2	Number of births during the year 3	Number of deaths among children under one year during the year 4	Number of successful Vaccinations on children under one year during the year ending 31st March 1940 5	Date of extension of Vaccination Act to town 6
Cachar ...	Silchar ...	349	32	181	21st January 1892.
	Hailakandi ...	100	12	30	10th November 1922.
	Sylhet ...	750	97	541	1st October 1882.
	Habiganj ...	245	33	39	11th December 1913.
Sylhet ...	Sunamganj ...	188	23	53	28th June 1915.
	Karimganj ...	170	16	96	27th July 1915.
	Maulvi Bazar ...	103	12	61	16th April 1916.
	Srimangal ...	73	6	20	9th October 1936.
Khasi and Jaintia Hills.	Shillong ...	766	59	682	21st June 1895.
	Total of Surma Valley and Hill Division.	2,744	290	1,703	
Goalpara	Dhubri ...	410	50	161	13th February 1891.
	Goalpara ...	213	17	95	12th November 1890.
	Gauripur ...	265	44	115	15th September 1922.
Kamrup	Gauhati ...	718	82	415	August 1882.
	Barpeta ...	775	56	212	29th October 1915.
	Palashbari ...	154	12	130	16th November 1927.
Darrang	Tezpur ...	335	37	158	22nd May 1907.
	Mangaldai ...	59	11	45	12th October 1916.
Nowgong	Nowgong ...	425	50	289	7th April 1897.
Sibsagar	Sibsagar ...	142	10	31	21st January 1892.
	Jorhat ...	287	37	107	12th April 1892.
	Golaghat ...	131	17	51	24th March 1892.
	Nazira ...	81	11	32	1st December 1916.
Lakhimpur	Dibrugarh ...	486	34	157	September 1883.
	Doom Dooma ...	23	1	10	21st October 1918.
	Tinsukia ...	139	20	20	31st August 1922.
	North Lakhimpur	68	8	16	22nd June 1932.
	Total of Assam Valley Division.	4,711	497	2,044	
	Total for the Province.	7,455	787	3,747	

IMPERIAL STATEMENT No. V.—Showing side by side the ratio (per 1,000 of population) of deaths from small-pox and the number of successful vaccinations during the ten years ending 1939-40

	1930-1931		1931-1932		1932-1933		1933-1934		1934-1935		1935-1936		1936-1937		1937-1938		1938-1939		1939-1940		
	Ratio of deaths from small-pox	Number of successful vaccinations	Ratio of deaths from small-pox	Number of successful vaccinations	Ratio of deaths from small-pox	Number of successful vaccinations	Ratio of deaths from small-pox	Number of successful vaccinations	Ratio of deaths from small-pox	Number of successful vaccinations	Ratio of deaths from small-pox	Number of successful vaccinations	Ratio of deaths from small-pox	Number of successful vaccinations	Ratio of deaths from small-pox	Number of successful vaccinations	Ratio of deaths from small-pox	Number of successful vaccinations	Ratio of deaths from small-pox	Number of successful vaccinations	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
Cachar..	·04	19,418	..	19,255	..	24,418	..	22,822	..	27,002	..	28,069	·06	28,725	·11	33,434	..	26,863	..	25,321	
Sylhet ..	·04	129,243	·01	108,508	·004	116,176	·02	111,605	·02	120,612	·04	122,728	·25	143,670	·66	167,689	·48	183,301	·66	218,437	
Khasi and Jaintia Hills ..	..	12,967	·003	14,098	..	15,222	..	13,654	·007	18,494	·007	21,296	..	18,992	..	18,384	..	22,983	..	33,128
Naga Hills ..	..	..	..	5,325	..	6,044	..	6,758	..	6,432	..	8,546	..	7,951	..	13,140	..	13,380	..	12,015
Lushai Hills ..	..	..	..	5,037	..	4,914	..	7,499	..	7,986	..	4,317	..	3,113	..	3,083	..	9,156	..	6,508
Goalpara	61	51,704	·29	65,171	·30	110,298	·04	94,802	·01	74,769	·002	56,281	·003	65,624	·008	54,503	·002	61,342
Kamrup	29	49,825	·17	46,086	·17	41,043	·07	46,478	·10	46,534	·26	82,942	·27	55,250	·12	48,556	·08	53,034
Darrang	15	35,005	·04	24,716	·05	28,454	·04	30,935	·06	38,890	·05	42,799	·06	49,973	·04	26,107	·04	45,829
Nowgong ..	..	..	..	28,873	..	28,507	..	28,051	·002	28,922	·03	37,916	·04	51,159	·06	52,967	·35	44,612	·54	45,930
Sibsagar ..	..	..	..	41,950	·03	34,567	·07	30,493	·06	35,214	·01	36,946	·13	44,429	·02	42,484	·006	33,770	·03	40,405
Lakhimpur	27	25,601	·11	18,877	·03	24,440	·008	28,118	·01	34,550	·003	32,652	·003	29,148	·006	29,811	·01	30,011
Garo Hills	13	18,997	·15	14,948	·03	13,978	·06	21,342	·04	18,855	·01	13,852	..	11,484	·005	10,268	..	11,766
Manipur State ..	..	..	..	19,284	..	18,726	..	20,313	..	20,293	..	7,890	·35	29,127	·39	30,042	·22	21,462	·01	19,973
Sadiya Frontier Tract ..	..	..	..	6,777	..	4,123	·09	2,878	..	2,552	..	5,131	..	2,980	..	2,763	..	2,273	..	3,161
Balipara Frontier Tract ..	..	..	..	..	..	291	..	478	..	514	..	400	..	669	..	456	..	366	..	448
Total ..	..	..	..	450,006	·14	408,831	·07	471,669	·06	470,499	·03	480,852	·02	545,596	·12	547,928	·25	514,261	·19	562,681
																			·23	608,661	

GOVERNMENT OF ASSAM
ORDERS BY THE GOVERNOR

Resolution on the Public Health Report for 1939

Extract from the proceedings of the Government of Assam in the Local Self-Government Department, Public Health Branch, No. 8731-L.S.-G., dated the 22nd November 1940

READ—

The Public Health Report for 1939.

R E S O L U T I O N

THE climatic, agricultural and economic conditions during the year were on the whole satisfactory. Rainfall was in deficit till the month of May but from that time onwards—except in the month of August when it was again in deficit—it left no room for complaint. Agricultural operations proceeded apace and, in the absence of any setbacks in the form of floods or prolonged draughts, resulted in a fair harvest. Prices of agricultural produce showed a slight rise owing, apparently, to the tense international situation which prevailed in the earlier part of the year and which later culminated in the outbreak of war in September. The sum total of all these factors is reflected in the general well-being of the people.

2. The agency for collecting the Vital Statistics remained the same as before and the figures representing vital occurrences in the different areas may be presumed to be as reliable as those of the previous years. In the working out of ratios, on the other hand, a change has been made this year ; the ratios have been worked out not on the basis of the Census population of 1931 as hitherto but on what is termed the "estimated population". As the estimated population has apparently taken no account of the increase of population by immigration, the ratios pertaining to areas such as Kamrup, Nowgong, Darrang and Lakhimpur where immigration is active should be taken with caution.

3. The statistics show that, like the North West Frontier Province and Sind, Assam had a lower birth-rate and death-rate than the remaining provinces in India. The birth-rate (28.44) compares well with the quinquennial average (28.40) and the death-rate (19.25) with the quinquennial average (19.63). Infantile mortality was lower than in any other year during the last ten years but even so, the rate, *viz.*, 149.73 per mille is high in all conscience. The table showing mortality according to sex and age shows that wastage of life is higher among the males till the age of 15 is reached after which till the age of 40, at any rate, the wastage is markedly larger among the females. It is perhaps safe to assume that this larger wastage of life among the female population is in some way connected with the strain of child bearing. This appalling loss of young mothers and children brings into prominence the need of expansion of Maternity and Child Welfare Work.

4. The saving of young life is, however, only a part of the bigger problem of protecting human life in general by preventive means. Of the diseases accounting for the deaths during the year, the chief ones are Fevers, Dysentery, Diarrhœa, Cholera and Small-pox.

The head "Fevers" includes not only Malaria and Kala azar but also various diseases having fever as their predominant symptom. It may not be possible to state the proportions of deaths occasioned by the various diseases falling under this head. But it is common knowledge that Malaria accounts for by far the largest number. The amount of sickness due to Malaria is even larger and the importance of carrying on an incessant fight against this scourge which literally saps the vitality of the population has constantly been before the mind of the Government. Apart from the anti-larval operations carried on in various places under the supervision and guidance of the Assam Medical Research Society, Quininisation is being extended to the limit of the Provincial resources, in spite of the stoppage of free supply of quinine hitherto made by the Government of India and the increase in price of the anti-malarial drugs due to the war.

There is probably room for more consumption of the anti-malarial drugs and as it would be impracticable to purchase all the amount needed, Government are directing their attention towards the cultivation of cinchona within the province.

Kala-azar continued to show signs of recrudescence. An increase in the staff and intensification of surveys led to a greater number of cases being detected and treated than in the previous year. Goalpara, Nowgong and Sibsagar between them accounted for the greater part of the increase. New treatment centres were opened wherever necessary and in Golaghat (Sibsagar district) arrangements were made for in-door treatment of cases which were either too ill to travel or showed complications requiring closer medical observation.

Typhoid fever is a difficult disease to diagnose and statistics even from town areas cannot be said to be reliable. It is suspected that contaminated water-supply is a contributory cause and Government would like to draw the attention of those municipal bodies which have not yet provided uncontaminated sources of water-supply to their responsibility in the matter.

Cerebro-Spinal Fever which claimed no less than 235 victims in the Naga Hills and Manipur State during the preceding year claimed only 11 during the year under report.

5. Cholera, Dysentery and Diarrhœa.—As against 11,907 deaths from Cholera in the preceding year the number of deaths in 1939 was 3,020 out of which no less than 1,470 occurred in January and represented the tail end of the previous year's epidemic. The death-rate was less than half of the decennial average and the year in question must be regarded as having been remarkably free from Cholera. The Department was on the whole prompt in sending medical aid but there is still room for improvement in the prompt reporting of first cases from out-of-the-way places. The question of effecting an improvement in this matter and in diffusing general knowledge as regards first steps which the villagers can take before medical aid reaches them is engaging the attention of Government.

6. Small-pox.—This was the only disease, the number of deaths from which was greater in 1939 than in the preceding year. Considering that vaccination is a sure protection and that, if the statistics of vaccination appended to the report year after year are to be believed, the entire population should have been vaccinated long ago, it would be well for the Director to find out whether and how far the failure is due to (1) the insufficiency of the staff and vaccine, (2) failure or reluctance of the staff to visit out-of-the-way places and (3) reluctance of persons to undergo vaccination.

7. Maternity and Child Welfare Work.—Mention has already been made about the importance of Maternity and Child Welfare Work. Progress has been difficult for various reasons ; for one thing, neither the Government nor the local bodies nor the Red Cross Society have sufficient funds ; for another, trained staff is limited. Nevertheless, further progress is being planned. With the growing appreciation of the work of "trained dhais" the demand for training of "dhais" is increasing. Facilities for informal training of a sort exist in various hospitals as well as at the Berry-White Medical School. The question of prescribing a formal course of training together with a suitable curriculum is under consideration. A Bill for registration of "dhais" along with Nurses and others is also under preparation.

8. Leprosy.—Government acknowledges with thanks the part played by the Missions and the British Empire Leprosy Relief Association in the relief of Leprosy. Among the leprosy colonies run by Missions and deserving of special mention are those in the districts of Sibsagar and Goalpara, while the British Empire Leprosy Relief Association has assisted by providing funds for the construction of several centres for out-door treatment and the training and entertainment of a special leprosy officer for the purpose of co-ordinating effort. It is hoped that the visit of Dr. Santra, Propaganda Officer of the Association in the cold weather will lead to the formation of a comprehensive policy and plan. Local enthusiasm would need to be kindled if steady progress is to be achieved.

9. Food adulteration.—This is unfortunately a growing evil. The administration of the Assam Pure Food Act has been far from satisfactory. Except in Municipal areas with Health Officers, there is hardly any attempt to enforce the Act. One of the difficulties probably is to enlist the co-operation of a sufficient number of local persons with the requisite spirit of public service and leisure. The procedure for sending samples for analysis strikes the average person as being unduly

elaborate but it cannot be over-simplified if the accused is to have a fair trial and his guilt definitely established. Government propose to investigate the suggestion that a substantial reduction in the rate of fee charged for analysis will help to mend matters.

10. Propaganda.—Government regret to note that Public Health Exhibitions which have an enormous propaganda value seem to have already fallen into disuse. Apart from the treatment of epidemics as they arise the main function of the Department lies in a wide diffusion of the science of healthy living. This diffusion has to be not of abstract ideas but of concrete shapes into which these ideas are translated and presented in a form suited to easy assimilation by the people. The Department has to be ready with type plans of model houses, latrines, uncontaminated water-supply, etc., suited to the means and conditions of the villagers. Balanced diet, causation and prevention of diseases, First Aid are also matters on which the public needs constant advice. It is only when solutions have been found in these matters and presented to the villager in a manner calculated to enlist his active co-operation that the Department will be able to look with satisfaction on its work.

The thanks of the Government are due to Lieut.-Colonel Hesterlow for the efficient administration of the Department.

By order of the Governor of Assam,

S. P. DESAI,

*Secretary to the Government of Assam in the Education
and Local Self-Government Departments.*

